MANUAL OF ENVIRONMENTAL POLICIES AND GUIDELINES

Ontario

Ministry
of the
Environment

PURPOSE of MANUAL

This manual provides comprehensive documentation of the official policies of the Ministry of the Environment relating to its basic goal.

The Ministry recently reviewed its previous goal statement and decided to adopt a goal more in keeping with the direction of the Ministry.

The official goal of the Ministry of the Environment is now:

> TO ACHIEVE AND MAINTAIN A QUALITY OF THE ENVIRONMENT - INCLUDING AIR, WATER AND LAND - THAT WILL PROTECT HUMAN HEALTH AND THE ECOSYSTEM AND WILL CONTRIBUTE TO THE WELL-BEING OF THE PEOPLE OF ONTARIO.

The purposes of this manual are threefold:

1. To direct and guide decisions of Ministry personnel;

2. To provide a guide for future decision-making; and

3. To outline the stated policies of the Ministry for the benefit of any interested party.

USE AND APPLICATION OF MANUAL

The material in this manual is limited to existing policies of the Ministry. It purposely excludes matters of an administrative or procedural nature as detailed in already existing Manuals of Administration. It also excludes technical or operational manuals of specific programs or branches. For example, the MOE report entitled Investigating Fish Kills: A Guide to Field Procedures contains procedural information which will not appear in this Manual. Reference to excluded categories of information may be obtained through other Ministry sources.

The policy statements in this Manual will often refer to legislation, regulations, other manuals, or other documents. Users of this Manual are encouraged to supplement the policy statements with other information sources as appropriate.

DEFINITION OF TERMS

The overall environmental objectives of the Ontario Government are expressed through a variety of means such as legislation, public statements by Ministers, Cabinet directives or policy documents. Individual Ministries may develop specific policies to assist them in their program management responsibilities.

The Ministry of the Environment defines a policy as a rule or guideline for the Ministry's decision-making process. If it is a rule, a policy will indicate the required decision and the circumstances in which the decision applies. If it is a guideline, a policy provides a framework for individual decisions, but does not determine what decision is appropriate.

Policies are the Ministry's expression of the Government's objectives and are therefore prescriptive in character, and more detailed than the Government's objectives.

POLICY - RULE

A policy statement in the form of a rule will indicate the required decision and the circumstances in which the decision applies. This kind of policy statement allows very little discretion or interpretation on the part of staff in the decision-making process.

POLICY - GUIDELINE

A policy statement in the form of a guideline provides a framework for decision-making without determining what decision is appropriate. Policy in guideline form allows a greater degree of discretion in the decision-making process. Guidelines are less formal or rigid than rules and may therefore be harder to enforce. On the other hand, guidelines allow for some flexibility in policy implementation which may lead to greater overall effectiveness.

PROCEDURES

Procedures describe in detail the steps needed to accomplish a particular task. Procedures ensure that implementation of policy is both complete and comprehensive.

Procedures differ from policies in several respects. Policies describe the objectives of the Ministry, while procedures describe the way in which these objectives are to be accomplished. Procedures provide neither the decision necessary in a situation (as a policy rule) nor a framework for decision-making (as a policy guideline).

ENVIRONMENTAL POLICIES

The Ministry of the Environment is responsible for developing and implementing the major policies of the Ontario Government to protect the natural environment and manage waste. The

majority of these policies are specific to the Ministry and designed to meet these responsibilities. A small number of policies originate with the more general expressions of the Government's objectives toward the environment, usually contained in Cabinet directives. These require Cabinet approval. But whatever the original source, the policy statements contained in this Manual are considered to be definitive.

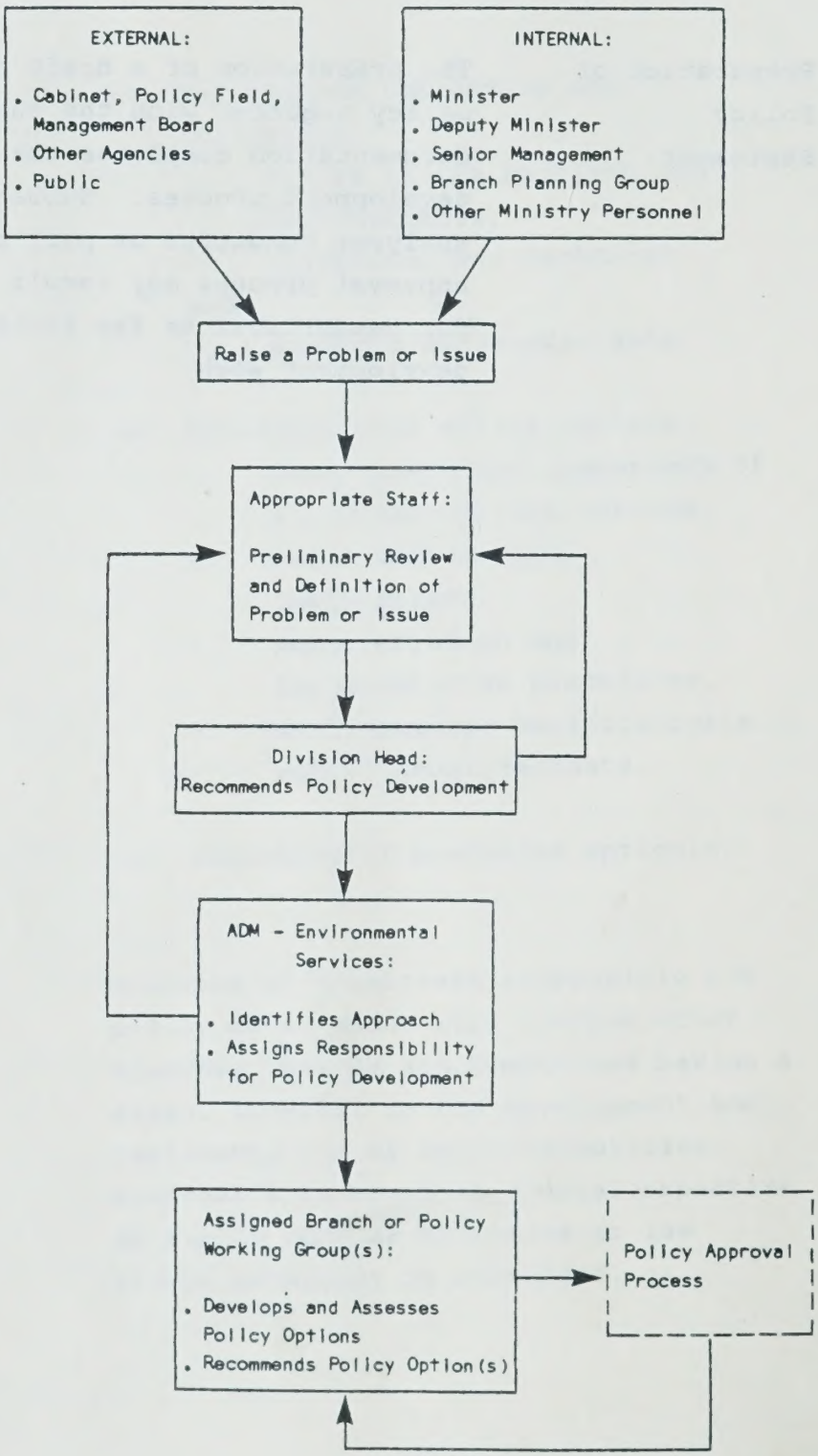
POLICY FORMAT

The subject material in the manual is presented in the MOE Policy Manual form exhibited on page xi.

The following is a brief description of its content:

POLICY TITLE	-	The name of the policy
Policy Number	-	The number assigned to the policy
Legislative Authority	-	The Statutes and/or Regulations relevant to the policy
Statement of the Principles	-	The major principles embodied in policy
Point of Contact	-	The official and office responsible for the document
Effective Date	-	The date on which the policy is effective

MINISTRY OF THE ENVIRONMENT - POLICY DEVELOPMENT PROCESS



POLICY APPROVAL PROCESS

Definition:

Policy approval is the process whereby the draft policy statement initially accepted by a Director receives a multi-staged analysis and review leading to final approval by the Deputy Minister, the Minister, and the Cabinet where necessary.

Policy proposals that contemplate changing existing major policies or creating new major policies which may concern other Ministries are submitted to cabinet by the Minister. Policy proposals are then considered by the appropriate Cabinet Committees and the full Cabinet which exercises final decision-making authority.

All the policies presently being developed by the Ministry will follow the description below and the diagram on page xix.

Ministry Approval:

The Ministry of the Environment has developed a formal process for approving new policies or changes in existing policies. All the policies presently being developed will follow the process flow illustrated by the diagram on page xix.

Method of Presentation:

Policies submitted for Ministry approval will be presented in the format described on the MOE Policy Approval Process Form on page xx. This form will be retained by Policy and Planning Branch along with the documentation supporting the proposal.

Scope of Approval Process:

All new policies are subject to the approval process outlined above. In general, submissions for policy development are approved by the Ministry Policy Development and Coordination Committee.

Committee members are:

1. Director, Policy and Planning Branch - Chairman
2. Director, Air Resources
3. Director, Water Resources
4. Director, Waste Management
5. Director, Hazardous Contaminants Coordination Branch
6. Director, Laboratory Services Branch
7. Director, Environmental Approvals and Land-Use Planning
8. Director, Legal Services
9. Director, Central Region
10. Director, Project Engineering
11. Director, Communications Branch

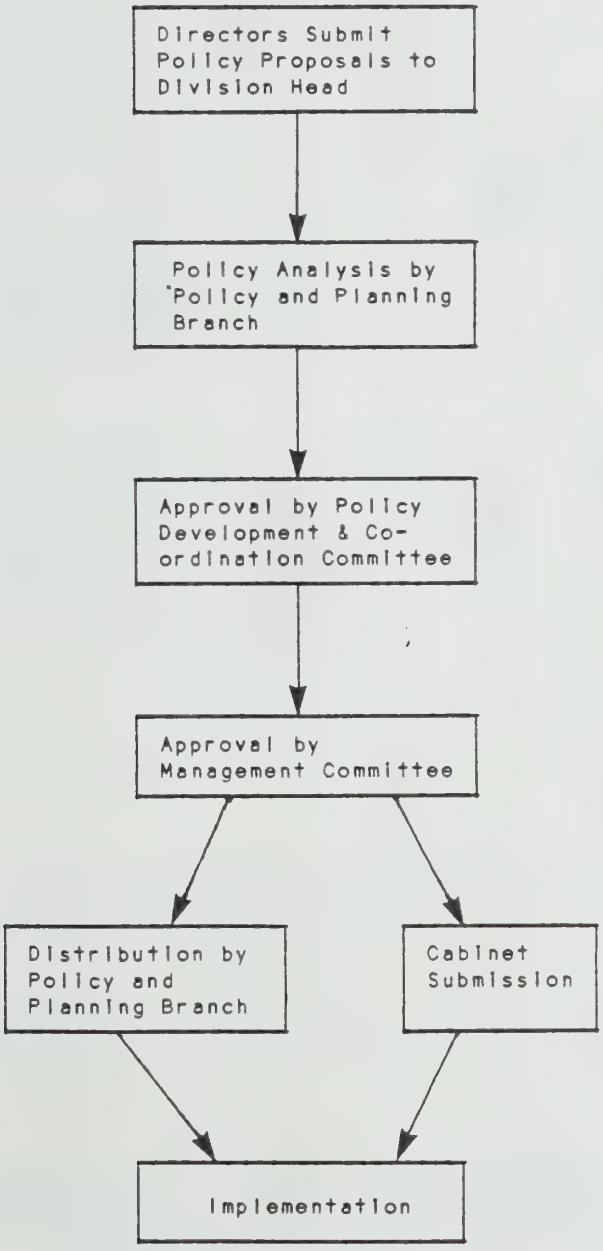
Division Heads are ex-officio members and attend Committee meetings at their pleasure.

After approval by Policy Committee, submissions proceed to obtain final approvals. Upon signature by the Deputy Minister and the Minister, the policies become effective.

Publication and Deposition

The final steps in the policy approval process, after Cabinet approval (if required), are the documentation of policies in the approved format and their deposition in this Manual.

MINISTRY OF THE ENVIRONMENT - POLICY APPROVAL PROCESS



Ministry of the Environment
Ontario

Policy Approval Process Form

xx

POLICY/TITLE	NO.

Legislative Authority

Statement of Principles

Originator:	Recommended by: Director, Policy and Planning Branch
Recommended by: Director, Legal Services Branch	Recommended by: Executive Director, Corporate Resources Division
Recommended by: Division Head	Approved: Deputy Minister Date:

Approved:

Minister

Effective Date:

CONTACT FOR INFORMATION AND INQUIRIES

Policy and Planning Branch, in addition to its policy analysis role, is responsible for the maintenance and distribution of the Manual. It should receive all requests for information pertaining to the Manual.

For information regarding a specific policy, please consult the Branch, section or person identified in the policy under the heading "Point of Contact". Reference to both policy title and number will help speed all inquiries.

REVISIONS

From time to time revisions will be made to this Manual to reflect changes in policies and to incorporate existing and new policies. Such revisions, once approved, will be distributed to custodians of the Manual by Policy and Planning Branch with appropriate explanations and instructions.

Each time a policy is revised, the date of the revision will be entered under the "Effective Date".

Proposed revisions to approved policies are to be processed through the normal policy approvals process.

DISTRIBUTION

Each copy of the Manual shall be assigned to an office or position. When an incumbent leaves, the copy must remain for the successor. If the position or office is abolished the copy must be returned to Policy and Planning Branch.

Custodianship of the Manual does not imply personal ownership and custodians should locate this Manual in an area to which Branch or Section staff have ready access. The Manual should be accessible to all Ministry personnel involved in the development or implementation of environmental policy.

The distribution list following includes the positions and offices to which a copy of the Manual has been assigned.

CHAPTER CONTENTS - February 7, 1989

CHAPTER CONTENTS - February 7, 1989 (Continued)

CHAPTER CONTENTS - February 7, 1989 (Continued)

CHAPTER CONTENTS - February 7, 1989 (Continued)

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CHAPTER CONTENTS - February 7, 1989 (Continued)

POLICY TITLE	NO
COMBUSTION IN INCINERATORS	01-01-01

Legislative Authority

The Environmental Protection Act
Regulation 308
Regulation 309

Statement of Principles

This policy is designed to reduce contaminant emissions from incinerators by properly controlling the combustion process, and thereby contribute to the protection of the environment. The policy establishes minimum design and operating parameters for the evaluation of new incinerators that burn one or a combination of domestic, biomedical, commercial or non-hazardous solid industrial wastes. Minimum design and operating parameters for crematoria are outlined in Policy 01-05. The elements of this policy should also be considered when evaluating existing incinerators, and assessing proposals for upgrading existing units.

Incinerators which meet the requirements of this policy will achieve high combustion efficiencies, which will minimize the emissions of organics including toxic chlorinated compounds. Proponents are expected to commit to meeting the elements of this policy, and to provide detailed information to support their commitment. The elements of this policy will be enforced by imposing conditions in Certificates of Approval.

This policy refers only to the combustion process; additional emissions control and monitoring requirements are addressed in Policy 01-03.

Point of Contact

Director, Air Resources Branch

Effective Date

January 23, 1989

1. Incineration Temperature

Incinerators shall be designed to be capable of maintaining, on a continuous basis, an incineration temperature of at least 1100°C, and shall operate at a temperature of not less than 1000°C. An auxiliary burner shall be incorporated to provide this minimum operating temperature at start-up before the commencement of the incineration cycle, during shutdown until all combustion of waste has ceased, and when necessary during other phases of operation.

2. Combustion Air Distribution

Primary and secondary combustion air systems on incinerators shall be designed to control air distribution. Control systems shall provide the capability to adjust the distribution of combustion air and to automatically adjust the quantity of combustion air to respond to the range of waste properties, incinerator feedrates, and irregularities in loading and/or burning patterns in the incinerator.

3. Residence Time

Incinerators shall be designed for a combustion gas residence time of not less than one second at 1000°C. This residence time shall be calculated from the point where most of the combustion has been completed and the incineration temperature fully developed.

3.1 In multi-chamber incinerators this residence time shall be calculated from the secondary burner(s) flame front. If air is introduced downstream of the burner flame front, residence time shall be calculated from the final air injection point(s).

3.2 Where the furnace is one continuous space, such as in spreader stoker and single chamber mass burning designs, the location of the

complete combustion/fully developed temperature point shall be determined by an overall design review, and may be significantly downstream of the final air injection point(s).

4. Oxygen Availability

Incinerators shall be designed to provide and shall operate at not less than 6% residual oxygen in the flue gas exhaust during the incineration cycle.

5. Turbulence and Mixing

Incinerators shall be designed to provide and maintain a high degree of gas phase turbulence and mixing in the secondary combustion zone. Provisions shall include any combination of: appropriately located/directed air jets, changes of flue gas flow direction, baffling, and constriction of cross-sectional flue gas flow area.

6. Range of Operation

Incinerators shall be designed to achieve the temperature, residence time, oxygen availability and turbulence requirements of this guideline over the complete expected range of values of the incinerator operating parameters, including:

- feed rate (including minimum and maximum rates);
- ultimate analysis, heating value, ash and moisture content of the waste;
- combustion air; and
- heat losses.

7. Pressure Control and Emergency Exhaust

Incinerators shall be designed to operate under negative pressure during all phases of operation. Emergency exhausts shall not be located prior to the point at which the one second residence time at 1000°C has been achieved.

8. Control, Monitoring, and Performance Testing

8.1 Incinerators shall incorporate control and monitoring systems to ensure and readily indicate and confirm, that the requirements of this guideline as well as other Ontario Ministry of the Environment standards, regulations and guidelines are consistently met. Control and monitoring systems shall be capable of readily signifying and correcting any aspect of substandard operation.

8.2 Continuously monitored parameters shall include temperature(s), total hydrocarbons (or carbon monoxide), and opacity. Monitoring may also be required for oxygen, carbon dioxide, incinerator exhaust flue gas volume, hydrogen chloride, sulphur oxides, nitrogen oxides and other parameters. Continuous monitors shall be equipped with recording devices for subsequent reference and analysis.

8.3 Performance tests shall be undertaken within six months of start-up and thereafter at a frequency determined by the Director. The performance test results shall be used to define the acceptable range of feed rates, acceptable operating procedures and an acceptable range of readings for continuous monitoring devices. Any exceedance of this acceptable range for any monitor shall be reported to the local District Office of the Ministry of the Environment.

POLICY TITLE	USE OF AFTER-MARKET AUTOMOTIVE CATALYTIC CONVERTERS	NO 01-02-01

Legislative Authority

Environmental Protection Act, Section 21
Regulation 311

Statement of Principles

The current interpretation of Section 21(3) of the Environmental Protection Act necessitates the replacement of a malfunctioning catalytic converter with a catalytic converter of exactly the same type.

A strict enforcement of this interpretation can result in unnecessarily high replacement cost for a catalytic converter that may be installed on an older vehicle whose value and remaining useful life does not warrant the installation of a converter costing up to $500.

1.0 Purpose

This policy sets out the conditions under which it is permissible for less expensive "after-market" catalytic converters to be installed on vehicles in place of "original equipment" converters.

2.0 Objective

The objective of this policy is to encourage the replacement of catalytic converters which are missing or no longer meeting the emission requirements specified in Regulation 311.

Point of Contact

Director, Air Resources Branch

Effective Date

December 11, 1987

3.0 Scope

This policy applies in all circumstances where catalytic converters on light duty vehicles require replacement.

4.0 Converter replacement requirements

4.1 Conditions where "original equipment" grade converters must be used

If a catalytic converter malfunctions before the vehicle attains both 80,000 kilometres and five years from the date of original licence issuance, the converter must be replaced with a catalytic converter identical to that originally installed on the vehicle by the manufacturer.

4.2 Conditions where "after-market" grade converters may be used

If a catalytic converter malfunctions after the vehicle attains both 80,000 kilometres and five years from the date of original licence issuance, an "after-market" converter, approved by the Ministry of the Environment, may be installed on a motor vehicle of the appropriate type or class in place of the malfunctioning catalytic converter.

5.0 Responsibilities

5.1 MOE

(a) Where a manufacturer of after-market catalytic converters can show that its product is capable of reducing the level of pollution emitted from the tailpipe of a type or class of light duty motor vehicle, by a prescribed amount for a period of at least two years or a distance of at least 40,000 kilometres, such catalytic converter may be sold in Ontario, and installed and used on light duty motor vehicles of the appropriate type or class in accordance with section 4.2. The prescribed reductions shall be:

Carbon monoxide	70%	
Hydrocarbons	70%	
Nitrogen oxides	30%	(where the original converter was a three way converter)

These reductions are not intended to replace the requirements of Regulation 311 which remain in effect.

(b) Where a manufacturer of after-market catalytic converters has obtained a set of identifying code letters from the United States Environmental Protection Agency, the manufacturer shall stamp on or affix to the shell of the catalytic converter the designated code letters. An after-market catalytic converter shall not be sold in Ontario unless it has the manufacturer's identification code on the shell, if available.

(c) Where an after-market catalytic converter is sold, installed and used in accordance with section 4.2 such sale, installation and use shall not be deemed to be a contravention of the provisions of section 21(3) of the Environmental Protection Act.

(d) This policy statement does not give approval for the sale, installation or use of reconditioned or re-manufactured catalytic converters.

5.2 Manufacturer of after market catalytic converters

(a) A manufacturer or distributor shall only sell, or offer for sale, an after-market catalytic converter in Ontario after he has satisfactorily supplied the Ministry of the Environment with the following data:

(i) A list of applicable vehicles on which each after-market catalytic converter can be installed

(ii) Test results proving that the product is capable of controlling the pollutants, carbon monoxide and hydrocarbons (and nitrogen oxides, where applicable) to the required level for at least two years or 40,000 kilometres, and, where available.

(iii) A copy of the letter from the U.S. EPA, giving the manufacturer's identification code letters.

(b) A manufacturer or distributor shall stamp on, or affix to, the shell of each catalytic converter that he wishes to offer for sale in Ontario, the relevant U.S. EPA identification code, if available, or otherwise an identification code issued by the Ministry.

(c) The identification code shall be located on the bottom surface of the catalytic converter shell so as to be easily legible when the catalytic converter has been installed on a vehicle.

(d) A manufacturer or distributor shall not sell, or offer for sale, an after-market catalytic converter in Ontario until the Ministry of the Environment has issued a letter to the manufacturer or distributor stating that the after-market catalytic converter meets the relevant conditions set out in this policy statement.

POLICY TITLE	NO
AIR POLLUTION CONTROL ON INCINERATORS	01-03-01

Legislative Authority

The Environmental Protection Act
Regulation 309

Statement of Principles

State-of-the-art air pollution control systems shall be installed on all new incinerators which burn one or a combination of domestic, biomedical, commercial or non-hazardous solid industrial wastes. This will reduce contaminant emissions from incineration systems and thereby contribute to the protection of the environment.

This policy will assist in the interpretation of Regulation 309, Sec. 9(4), and refers to the air pollution control (APC) system and Policy 01-01 - Combustion in Incinerators. Proponents are expected to commit to meeting the elements of this policy and to provide detailed information to support their commitments. The elements of this Policy will be enforced by imposing conditions in Certificates of Approval.

The emission limits below will be reviewed and refined from time to time to reflect the anticipated increase in test data from Ontario and other sources, and the anticipated development of control guidelines and/or regulations by the Canadian federal government and others.

Point of Contact

Director, Air Resources Branch

Effective Date

January 23, 1989

1. Particulate Outlet Concentration

APC systems on incinerators shall achieve a maximum guaranteed outlet particulate loading of not greater than 20 mg/Rm^3 @ 11% O_2 (milligrams per dry cubic metre normalized to 11% oxygen at a reference (R) temperature of 25°C and a reference pressure of 101.3 kPa).

NOTE: For mobile incinerators and incinerator units with capacities less than 400 kg/h, the outlet particulate concentration of 20 mg/Rm^3 @ 11% O_2 shall be considered as a target in evaluating state-of-the-art control systems.

2. Hydrochloric Acid (HCl) Removal

APC systems on incinerators shall achieve either a minimum guaranteed HCl removal efficiency of not less than 90%, or a maximum guaranteed HCl outlet concentration of 30 ppmv @ 11% O_2 (parts per million by dry volume normalized to 11% oxygen). (30 ppmv @ 11% O_2 is equivalent to about 50 mg/dry m^3 @ 25°C and 11% O_2).

3. Continuous Operation

APC systems on incinerators shall be designed to operate on a continuous basis whenever there is waste burning in the incinerator. The design of the system shall incorporate consideration of:

- the conditions which could lead to an unscheduled shutdown of the APC system;
- means of ameliorating such conditions; and
- APC bypassing which cannot be avoided.

The APC/incinerator control system shall be designed to ensure the shutdown of the incinerator immediately upon an unscheduled shutdown of the APC system in a manner that will minimize air emissions. The control system shall also be designed to record pertinent information for subsequent

mandatory reporting to the local District Office of the Ministry of the Environment, and for an assessment of the reasons for shutdown and potential measures to prevent a recurrence.

4. Performance Testing and Monitoring

4.1 The guaranteed removal efficiency and/or outlet loadings as described above shall be demonstrated by performance test programs approved by the Air Resources Branch and, where applicable, by methods included in the Source Testing Code (Version #2, ARB-TDA-66-80) and any revisions and/or addenda thereto.

4.2 The provisions of Policy 01-01 shall apply with respect to control, monitoring, performance testing, record keeping and reporting, and item 8.3 shall be included in performance testing programs.

Incinerator APC systems which achieve the above requirements and Policy 01-01 will minimize the formation of organics including toxic chlorinated compounds, and minimize their emission into the ambient air. Control systems which achieve the requirements of this policy will also reduce the emissions of metals (including beryllium, arsenic, cadmium, chromium, mercury, nickel, lead, selenium, antimony and zinc) and metallic compounds, and acidic gases (including sulphur dioxide (SO_2), hydrogen bromide (HBr) and hydrogen fluoride (HF)).

INTERIM GUIDELINE FOR AIR POLLUTION CONTROL ON REFUSE INCINERATORS

This interim guideline has been prepared for discussion purposes in interpreting the Ministry Policy on Air Pollution Control on Refuse Incinerators (01-03). The emission limits below have been developed based on available test data on existing installations. The guideline will be reviewed and refined from time to time to reflect the anticipated increase in test result data from Ontario and other sources, and the anticipated development of control guidelines and/or regulations by the Canadian federal government and others.

1. Particulate Outlet Concentration

APC systems on refuse incinerators shall have a maximum guaranteed outlet particulate loading of not greater than 20 mg/Rm^3 @ 11% O_2 (milligrams per dry cubic metre normalized to 11% oxygen at a reference (R) temperature of 25°C and a reference pressure of 101.3 kPa).

2. Hydrochloric Acid (HCl) Removal

APC systems on refuse incinerators shall have a minimum guaranteed HCl removal efficiency of not less than 90%, or a maximum guaranteed HCl outlet concentration of 30 ppmv @ 11% O_2 (parts per million by dry volume normalized to 11% oxygen). (30 ppmv @ 11% O_2 is equivalent to about 50 mg/dry m^3 @ 25°C and 11% O_2).

3. Other Contaminants

Incinerator systems which meet the above requirements and Policy 01-01 will minimize the formation of organics including toxic chlorinated compounds, and minimize their emission into the ambient air. Control systems which achieve the requirements of this policy will also reduce the emissions of metals (including beryllium, arsenic, cadmium, chromium, mercury, nickel, lead, selenium, antimony and zinc) and metallic compounds, and acidic gases (including sulphur dioxide (SO_2), hydrogen bromide (HBr) and hydrogen fluoride (HF)).

4. Performance Testing and Monitoring

4.1 The guaranteed removal efficiency and/or outlet loadings as described above shall be demonstrated by performance test programs approved by the Air Resources Branch and, where applicable, by methods included in the Source Testing Code (Version #2, ARB-TDA-66-80) and any revisions and/or addenda thereto.

4.2 Performance tests shall be undertaken within 3 months of startup and thereafter on an annual basis. The performance test results shall be used to define the acceptable range of readings for continuous monitoring devices, and any exceedance of this acceptable range for any monitor shall be reported to the local District Office of the Ministry of the Environment.

Ministry of the Environment
Ontario

M.O.E. Policy Manual

POLICY TITLE	NO
OPERATION OF THE AIR POLLUTION INDEX (API) AND THE AIR QUALITY INDEX (AQI)	01-04-01

Legislative Authority

Environmental Protection Act
Regulation 308

Statement of Principles

This policy describes:

(A) the Air Pollution Index (API); and
(B) the Air Quality Index (AQI)

operated by the Ministry of the Environment to measure and control air pollution for the protection of human health and the environment. It explains how the two systems differ in terms of the purpose for which each index is designed, the pollutants on which each index is based, the means by which the public is informed of air quality, and the actions to be taken when air pollution exceeds specified levels.

Point of Contact

Director, Air Resources Branch

Effective Date

June 30, 1988

Definition

Adverse Meteorological Conditions	A term used in this policy to describe those occasions when wind speed or wind direction or turbulence (wind fluctuations) or temperature variations, alone or in combination, prevent the efficient dispersal of pollutants into the atmosphere.
Air Pollution Episode	An occasion when air contamination is at such a level and for such a period of time that the air contamination may become the cause of increased human sickness and mortality.

1. Purpose

1A. API

The API is designed for use as the basis of an Air Pollution Alert System to protect human health.

It provides the regulatory basis for the control of stationary sources of air pollution to curb or prevent air pollution episodes caused by sulphur dioxide and suspended particulate matter.

1B. AQI

The AQI is designed as a means of informing communities on the current air quality in those areas where monitoring stations are located.

Several of the pollutants monitored as the basis of the AQI emanate primarily from automobiles, domestic fuel consumption or long range transport, none of which can be subject to immediate control. In general, therefore, the AQI cannot be used as a tool for the immediate prevention of air pollution.

The AQI system may, however, be used by the Ministry under certain circumstances to advise owners of stationary sources of potential air quality problems when these sources are major contributors to the problem. (See 3B).

2. Pollutants Monitored

2A. API

The API is based on the 24-hour running averages of the concentrations of:

. Sulphur dioxide;
. Suspended particulate matter.

2B. AQI

A mathematical equation determines each sub-index as a function of the pollutant concentration. The AQI is the highest of the sub-indexes based on one of the following:

. One hour average concentration or value for
  - sulphur dioxide
  - suspended particulate matter
  - nitrogen dioxide
  - ozone
  - carbon monoxide
  - total reduced sulphur compounds.

. Eight hour average concentration of

  - carbon monoxide.

. The Air Pollution Index.

3. Index Readings, Interpretation and Control Action

	Reading	Interpretation	Control Action
3A. API	Below 32	Acceptable Level	-
	32 plus; adverse meteorological conditions expected for at least six hours	Advisory Level	Significant sources may be advised by the Ministry to prepare for curtailment of operations
	50 plus; adverse meteorological conditions forecast for further six hours	First Alert	Significant sources may be ordered by the Ministry to curtail operations

Reading	Interpretation	Control Action
75 plus; adverse meteorological conditions forecast for further six hours	Second Alert	Further curtailment of pollution sources may be ordered by the Ministry
100 plus	Air Pollution Episode Threshold Level	All pollution sources not essential to public health or safety are ordered by the Ministry to close down

3B. AQI

0 - 15	Very good	-
16 - 31	Good	-
32 - 49	Moderate	-
50 - 99	Poor	-
100 plus	Very poor	-

On those occasions when the AQI is 32 or higher, and meteorological forecasts indicate that the Index will remain elevated for a prolonged period due to emissions from certain stationary sources, the owners of those sources may be requested by the Ministry to take action to alleviate the problem.

Such requests will be made on the basis that the pollutant which is causing the Index to reach 32 or higher is being emitted at concentrations which exceed the Ontario standard or criterion for that pollutant.

4. Method and Frequency of Reports to Public

4A. API

The API will be reported to the public when it is the basis of the AQI, at which time it will be reported as such.

4B. AQI

Index readings will be reported to appropriate media four times a day.

Whenever the AQI is reported to be 32 or higher, subsequent reports will be released every hour together with information respecting the probable duration of the 32-or-higher level and the pollutant(s) on which the AQI is based.

POLICY TITLE CREMATORIA	NO 01-05-01

Legislative Authority

The Environmental Protection Act
Regulation 308

Statement of Principles

This policy is designed to reduce contaminant emissions from crematoria by properly controlling the combustion process and thereby contribute to the protection of the environment. The policy establishes design and operating guidelines for application to new incinerators that burn human remains.

Incinerators which meet the requirements of this policy and its associated guideline will achieve high combustion efficiencies and thereby minimize the emission of organic compounds.

This policy deals with the Approval of Cremator designs where the application states that caskets fabricated from potentially hazardous materials including chlorinated plastics, fibre reinforced plastics and impregnated cardboard will not be incinerated.

This policy refers primarily to the combustion process; additional emission controls may also be required. Where potentially hazardous materials are incinerated, air pollution controls will be required as per Policy 01-03.

Point of Contact

Director, Approvals Branch

Effective Date

January 23, 1989

1.0 Incineration Temperature

Crematoria shall be designed for a minimum of at least 1,100°C, and shall operate at a destruction temperature of not less than 1,000°C in the secondary chamber and 800°C in the primary chamber.

2.0 Residence Time

Crematoria incinerators shall be designed for a combustion gas residence time of not less than one second at 1,000°C. This residence time is to be calculated from the point where most of the combustion has been completed and the incineration temperature fully developed. This residence time is normally calculated from the secondary burner(s) flame front. If secondary air is introduced downstream of the burner flame front, residence time should be calculated from the final secondary air injection point(s).

3.0 Oxygen Availability

Crematoria shall be designed to provide and shall operate at not less than 6% residual oxygen in the flue gas exhaust during the incineration cycle.

4.0 Turbulence and Mixing

Crematoria shall be designed to provide a high degree of gas phase turbulence and mixing in the secondary combustion zone. Provisions shall include any combination of: appropriately located/directed air jets, changes of flue gas flow direction, baffling, and constriction of cross-sectional flue gas area.

5.0 Range of Operation

Crematoria shall be designed to achieve the temperature, residence time, oxygen availability and turbulence requirements of this guideline over the complete expected range of values of the incinerator operating parameters, including:

- feed rate, ultimate analysis, heating value, ash and moisture contents;

- combustion air;
- flue gas flow rates; and
- heat losses.

6.0 Control and Monitoring

6.1 The secondary burner(s) shall be fully modulating with a "hold fire" setting to ensure the presence of a flame in the secondary chamber throughout the entire cycle.

6.2 Crematoria shall be equipped with a temperature recorder/controller to control and record the temperature in both the primary and secondary chamber.

7.0 Guidelines for Crematoria

7.1 Guidelines for the design and operation of crematoria can be found in the MOE publication "Guidance for Incinerator Design and Operation, Volume III, Cremators".

Ministry of the Environment
Ontario

M.O.E. Policy Manual

POLICY TITLE	GUIDELINES FOR ECONOMIC ANALYSES OF PRIVATE SECTOR POLLUTION ABATEMENT AND ENVIRONMENTAL PROTECTION MEASURES	NO. 02-01-01 Revised

Legislative Authority

the Environmental Protection Act, Section 3
the Ontario Water Resources Act, Section 7

Statement of Principles

This policy describes the purpose and content of economic analyses that may be required when developing (1) a Control Document for private sector pollution abatement activities, (2) evidence for a prosecution or (3) information for sentencing.

Various types of economic analyses are defined in this policy and the minimum requirements for such analyses are specified.

Procedures for initiating and administering economic analyses are detailed together with guidelines for determining whether a specific analysis should be carried out by Ministry staff or by consultants.

Consultation with external agencies will be undertaken as required

Definitions

Economic Analysis — The application of economic principles to identify and evaluate the consequences of particular courses of action or changes in policy. The quantitative magnitudes of all

Point of Contact

Director, Policy and Planning Branch

Effective Date

March 18, 1988

	relevant consequences are estimated, monetary values that are associated with these effects are assigned (where possible) and the incidence or distribution of these consequences and values among different groups, economic sectors and/or regions is determined.
Benefit-Cost Analysis	A type of comprehensive economic analysis in which all possible beneficial consequences (including program outputs or results), and all possible costs (including program inputs with any other relevant adverse consequences) are identified, quantified, and, where possible, valued or weighted to indicate social importance. The distribution of the benefits and costs are identified as well.
Cost Effectiveness Analysis	An economic analysis which is restricted to finding the least-cost method or means of achieving a pre-specified objective, or for achieving the greatest amount of a desired result for a fixed level of input or expenditure.
Financial Impact Analysis	An economic analysis which is restricted to the identification and evaluation of those consequences that affect the financial affairs of individuals, firms, municipalities, or individual sectors.
Firm	A corporation, company, partnership or individual that is subject to the Ministry's pollution abatement program requirements as stipulated in Policy 05-02.
Control Document	A control document is any written instrument which carries statutory authority. These include Minister's reports, licences, permits, certificates of approval, orders, control orders, requirements and directions, and program approvals.

1. Objective

The purpose of performing economic analyses is to generate information about the financial and economic consequences of Control Documents and abatement programs that can be used by the Minister and Ministry personnel in making decisions.

2. Purposes and Uses of Economic Analyses

(a) Develop and defend Control Documents;

(b) Develop and defend abatement programs;

(c) As evidence in developing or pursuing prosecutions;

(d) Provide information for sentencing;

3. Initiation Of An Economic Analysis

3.1 Policy 05-02

An economic analysis may be initiated as a requirement under Policy 05-02.

3.2 Minister, Deputy Minister, Division Heads and Directors

An economic analysis may be initiated by the Minister, the Deputy Minister, a Division Head or a Director in the course of developing a Control Document or undertaking an investigation leading to a prosecution in order to:

(a) document the financial and other resources that are necessary to comply with the proposed requirements;

(b) identify the magnitude and the distribution of the economic and social consequences of compliance with the Control Document;

(c) identify, quantify and value (where possible) the beneficial results of the proposed Control Document;

(d) verify claims by a firm that a Control Document or other types of abatement actions will cause undue financial hardship or unemployment;

(e) develop evidence of fraud or wrong-doing.

3.3 Protocol

Requests for economic analyses should be made through the appropriate Division Head, the Deputy Minister's Office or through the Director of Legal Services Branch to the Executive Director, Corporate Resources.

3.4 Timing

To ensure that adequate time is provided for economic analyses, the following minimum lead-times are required:

(a) Benefit-Cost Analysis - 6 months;

(b) Cost-Effectiveness Analysis - 3 months;

(c) Financial Analysis - 3 months.

4. Required Information

4.1 Benefit-Cost Analysis

(a) estimates of the physical requirements (equipment, materials, labour, etc.) and their financial values at various levels of abatement or degrees of environmental protection, as well as any cost reductions or revenues generated;

(b) non-financial consequences of the abatement action including lay-offs, reduced or increased output or production;

(c) quantitative estimates and/or qualitative descriptions of the environmental and social gains or losses resulting from the proposed action and where possible, estimates of the dollar values associated with these consequences.

4.2 Cost-Effectiveness Analysis

(a) Quantitative specification of program objectives in terms of emission or discharge rates or ambient environmental quality levels;

(b) A comprehensive specification of technologies or management procedures that will achieve the stated objectives alone or in combination;

(c) Estimates of the capital and operating costs of implementing specified technologies or management techniques to achieve the stated objectives.

4.3 Financial Impact Analysis

In addition to the information described under 4.1(a), (b), 4.2(a), (b), and (c):

(a) detailed financial statements of the firm's operation for at least five years including at minimum: consolidated income statements, balance sheets, statement of changes in financial position, relevant transfer prices and adopted accounting policies.

(b) where a single establishment of a large, multi-establishment firm is the focus, disaggregated financial data for the specific establishment are required;

(c) financial performance data for the industry in which the firm operates.

4.4 External Consultation

Consultation with other provincial ministries, the federal government and other agencies are to be undertaken as required.

5. Implementation

5.1 Responsibility

Requests for all analyses should be made to the Executive Director, Corporate Resources Division.

5.2 Coordination

The Policy and Planning Branch will:

(a) determine whether analyses will be carried out in-house or by a consultant;

(b) ensure the methodology used is consistent with the requirements of this and other relevant policies and is comparable with other analyses if required; and

(c) ensure reports, data and other results of the analyses are maintained and accessible for future related issues.

6. Methodology

6.1 Criteria

The criteria used to evaluate the firm's ability to incur the costs of implementing the requirements of a Control Document include, but are not limited to:

(a) calculation of a firm's financial performance indicators (including before- and after-tax profits, cash flow, debt levels, etc.) over the past five years including the expected Control Document compliance costs and productivity gains and comparison with:

- the firm's actual financial performance indicators;
- the financial performance indicators of the relevant industry.

(b) magnitudes of employment changes and other social consequences of compliance;

(c) comparison of the present value of expected future profits with compliance costs with the salvage value of the plant or other relevant assets.

6.2	Further Analyses	If a financial analysis indicates that the Control Document will impose financial hardships for the firm or where compliance likely will result in layoffs or other undesirable social and/or economic dislocations, more comprehensive economic analyses, such as a cost effectiveness and/or a benefit-cost analysis, may be required.
7.	Provision of Relevant Information	Firms who claim effects of the kind described under 3.2(d) are expected to provide the requested information expeditiously to the appropriate Ministry personnel or its consultants.
8.	Failure to Provide Requisite Information	Failure to provide required information will be interpreted to mean that the abatement action has no significant adverse effects on the firm in question.

POLICY TITLE FINANCIAL ASSURANCE	NO 02-03-01

Legislative Authority

Environmental Protection Act (EPA) RSO 1980 Part X-A

Statement of Principles

Financial Assurance will be imposed by the Ministry to ensure that recipients of orders and approvals issued under the Environmental Protection Act or the Ontario Water Resources Act comply in a timely manner with the terms and conditions thereof.

Financial Assurance will also be required to ensure that funds are available for future decommissioning, clean-up, rehabilitation and decontamination activities.

It is the Ministry's intention to impose Financial Assurance requirements in a consistent, equitable and effective manner.

Consequently, these requirements will not be restricted to new orders and approvals. Under certain conditions they will be applied also to existing operations.

Definitions

Definitions are provided in Section 119a of the EPA and in the guideline document associated with this policy statement.

Point of Contact

Director, Policy and Planning Branch

Effective Date

November 30, 1988

1.0 Scope

Those activities for which Financial Assurance will be requested are classified as being either Required or Discretionary as indicated below.

1.1 Mandatory Requirement

Activities for which Financial Assurance is mandatory include:

Approvals under Part V, EPA:

- Private landfill sites
  - for which a hearing is required under Section 30 of the EPA; or
  - which will accept non-hazardous solid industrial, commercial or domestic wastes and which have a life-time capacity of 40,000 cubic metres or more (i.e., the equivalent of 1,500 people);
- Private transfer stations and waste processing sites for subject wastes as defined in Regulation 309;
- Private transfer stations and waste processing sites for other wastes where there is no identified place or practical method for final disposal in Ontario;
- Private waste management (haulage) systems which carry subject wastes.

Approvals under Part VII, EPA

- All Class 4, 5 and 6 sewage systems designed to treat sewage other than sewage of a different type than sewage of domestic origin (i.e., other than human body waste, toilet and other bathroom waste, waste from showers and tubs, liquid or water borne culinary waste and sink waste).

Approvals under Section 23 and 24, OWRA and under Part VII, EPA:

. Private communal sewage and water works and sewage systems in unorganized areas where there is no agreement with the Ministry of Municipal Affairs for it or a local government agency to take over the works in the event of a default,

. Private communal sewage and water works in organized areas without an agreement with the local government agency to take over the system in a default situation.

NOTE:

The Ministry, at the time of initial approval in most cases, will continue to follow the practice of requiring a municipality or other governmental organization to be prepared to take over the long-term operation and maintenance in the event of a default by the private operator of a communal water works, sewage works or sewage system, and that in unorganized areas, there be a commitment to create such an organization.

1.2 Discretionary Requirement

Activities for which Financial Assurance requirement is discretionary.

. Other Approvals under Part V, EPA:

- recycling operations;
- organic waste disposal sites (e.g., canning plant wastes);
- incineration facilities;
- private transfer stations and waste processing sites for wastes other than those referred to in 1.1;
- PCB storage sites;
- waste management systems (haulers) which do not handle hazardous wastes.

. Approvals under Part VII, EPA:

- all Class A sewage systems.

. Approvals under Section 24 of the OWRA:

- industrial and milling activities that generate tailings, ash or other waste materials subject to Section 24, OWRA;
- any operation which discharges into surface waters.

. Air approvals under Section 8, EPA

- storage of subject waste materials from air pollution control equipment;
- Conditional Certificate of Approval requiring upgrading and where there is uncertainty as to whether the equipment will work.

. Water Taking Permits under Section 20, OWRA

- private undertakings which are likely to reduce the quantity or quality of water supplies of neighbours, and where conditions require remedial measures.

. Control and other Orders

- industrial abatement programs under Section 17, EPA;
- where an industrial or commercial site which is contaminated with hazardous materials is to be decommissioned;
- operations which store subject wastes on site under Regulation 309 for more than 90 days.

2.0 Further Guidance

Further guidance regarding the imposition of Financial Assurance including:

- conditions where Financial Assurance may be required,

- calculation of Financial Assurance requirements,
- records storage and retrieval, and
- conditions leading to a default condition and responses to these

are detailed in a document entitled "Guidelines for Financial Assurance: (Part X-A)"

Procedures for calculating or estimating the costs associated with different regulatory activities and which serve as the basis for setting financial assurance are detailed in Appendix A of the Guidelines.

3.0 Document Review

This policy and its associated Guidelines will be used during the 1988 calendar year. On the basis of operational experience and public comment, these documents will be reviewed and revised as deemed appropriate.

POLICY TITLE	CEMENT INDUSTRY GUIDELINES - PARTICULATE EMISSIONS FOR NEW CEMENT PLANTS CEMENT PLANTS	NO. 05-01-01

Legislative Authority

Statement of Principles

In accordance with the Canada/Ontario Accord for the protection and enhancement of Environmental Quality and specifically the Cement Industry National Emission Guidelines announced in the Canada Gazette of October 12, 1974. These guidelines are in addition to the requirements of Regulation 308, Ontario Regulation 296 and the Environmental Protection Act.

This policy concerns the guidelines for emission limits for particulate matter emitted by totally new cement plants in Ontario. These guideline limits, which are in addition to Ontario requirements, will be required to be met by new cement plants in the future.

1. Emission Limits for Particulate Matter

1.1 Kiln Sources	The emission limit is 0.9 lbs of particulate per ton of clinker produced for kiln sources.
1.2 Clinker Cooler Sources	The emission limit is 0.6 lbs of particulate per ton of clinker produced for clinker cooler sources.
1.3 Finish Grinding Operation	The emission limit is 0.1 lbs of particulate per ton of clinker consumed in the finish grinding operation.
1.4 All Other Plant Sources	The emission limit is 0.2 lbs of particulate per ton of clinker produced or consumed in the process for all other sources of particulate emissions in the plant, such as storage and transfer points.

Point of Contact

Director, Air Resources Branch

Effective Date

January 1, 1979

POLICY TITLE	POLLUTION ABATEMENT PROGRAM: DEVELOPMENT, COMPLIANCE AND ENFORCEMENT	NO 05-02-01

Legislative Authority

the Environmental Protection Act.
the Ontario Water Resources Act
the Pesticides Act

Statement of Principles

This policy describes the Ministry's pollution abatement program. The policy relates to all sources of pollution requiring the design, approval, delivery and installation of facilities or operational improvement(s). Additional requirements relating to particular sources of pollution, such as Policy 05-03, will be found in other policy statements.

Definitions

Program Approval

A 'Program Approval' refers to a document describing and approving a schedule of abatement activity submitted by a polluter to the Ministry and approved.

Legislative Authority:
The Environmental Protection Act,
Sections 9, 10, 11, 18.

Point of Contact

Operations Coordinator, Operations Division

Effective Date

February 9, 1981

Director Issued Order

A 'Director Issued Order' refers to an order or requirement issued by the Ministry which is not specifically covered by other definitions. A Director is any staff person appointed by the Minister for the purposes of the Act.

Legislative Authority: the Environmental Protection Act Sections 7, 18, 19, 42, 57, 68, 69.

the Ontario Water Resources Act Sections 17, 23, 24, 43, 51, 61.

the Pesticides Act Sections 11, 21, 24.

Control Order

A 'Control Order' refers to a requirement by the Ministry for specified abatement actions to be accomplished under a given schedule. Such Orders are generally issued as a result of a contravention of Section 13 of the Environmental Protection Act or a contravention of a standard or regulation. Control Orders include Requirements and Directions issued under the Ontario Water Resources Act.

Legislative Authority: the Environmental Protection Act Sections 6, 14, 113, 114, 115, 116.

the Ontario Water Resources Act Section 20, 23, 24, 32, 51, 52, 61.

the Pesticides Act Sections 13, 21, 22, 23, 24.

August 22, 1986

Provincial Officer's Requirement Stop Order

A 'Provincial Officer's Requirement' refers to the authority of a Provincial Officer to survey, collect information and report on contaminant sources. A Provincial Officer is any person designated by the Minister for the purpose of the Act. Such requirements also include the requirement of an employee or agent of the Minister having a similar authority under the Ontario Water Resources Act.

Legislative Authority: the Environmental Protection Act Sections 127, 128, 129, 130.

the Ontario Water Resources Act Section 10.

the Pesticides Act Section 17.

Stop Order

A 'Stop Order' is a requirement by the Ministry for an immediate stop to the addition, discharge or emission of a contaminant either permanently or for a specified period. Stop Orders include Emergency Orders issued under the Ontario Water Resources Act.

Legislative Authority: the Environmental Protection Act Sections 7, 12, 112, 117, 118, 119.

the Ontario Water Resources Act Section 62.

the Pesticides Act Section 20.

March 15, 1981

Notice of Intent

A 'Notice of Intent' is a notice which is served to provide written notification of a Director's intention to issue a Control Order, the reasons for the order and a copy of the report explaining the reasons. This notice must be served at least 15 days prior to the issuance of a Control Order.

Legislative Authority: the Environmental Protection Act Section 116.

the Ontario Water Resources Act Section 61.

the Pesticides Act Section 13.

1. Abatement Program Development Process

1.1 Problem Definition

The Ministry will begin the development of a pollution abatement program by defining the environmental problem(s).

1.2 Report Preparation

Where there is a severe, long-standing problem having a large degree of environmental impact, the Ministry will ask the company or person responsible for the problem to prepare a report outlining the technical options available for correcting the defined problem. In preparing this report, the company should address factors such as technical options, capital investments required, operating costs, economic feasibility, socio-economic implications and environmental benefits.

1.3 Commencement of Abatement Discussions

Once the report prepared under 1.2 is complete, specific abatement discussions with the polluter will commence. Available financial assistance programs will be thoroughly reviewed and discussed during abatement discussions.

1.4 Request for a Program Approval

Where the polluter agrees to prepare the report and wishes to enter into a Program Approval the Ministry will allow its use only when the following conditions are met:

(a) The polluter has demonstrated good faith through responsible timely pollution abatement in the past, or

(b) The Ministry staff are confident of the polluter's intent and ability to implement a Program Approval.

1.5 Program Approval Components

The following items will be contained in a Program Approval:

(a) A clear commitment by the polluter subject only to a 'force majeure' clause acceptable to the Director;

(b) Signatures of Senior Officers of the polluting firm under corporate seal;

(c) Assurance that the polluter has the financial capability and has earmarked these funds;

(d) Staged dates for each item;

(e) A description of the pollution problem and how the polluter will resolve this by the program;

(f) A statement that the polluter has investigated the options to its satisfaction and agrees that the proposed remedial project is technically feasible;

(g) A commitment to supply the Ministry with copies of documents (i.e., purchase orders, designs, contracts with consultants or contractors) as evidence of compliance with the various stages of the abatement program;

(h) A statement that the Program Approval is limited in its application to those parts of the plant or those processes or those contaminants specifically referred to in the Program Approval;

(i) A statement that time is of the essence to achieve the desired results;

(j) A statement that failure to meet any part constitutes failure to comply with the whole Program Approval;

(k) An agreement that the Program Approval be made public and, if requested by the Ministry, a willingness to participate in the public process respecting the proposed Program Approval.

1.6 Alternative Program Measures

If an abatement program cannot be assured after a reasonable period of discussion with the polluter not exceeding six months then alternative measures will be used to ensure abatement:

1.6.1 Orders and Requirements

Director Issued Orders, Control Orders, or Provincial Officer's Requirements may be employed by the Ministry to bring about pollution abatement.

1.6.2 Stop Orders

Where there is an immediate danger to human life and health or to property, a Director may issue a Stop Order directed to the person responsible for the source of the contaminant. In choosing this course of action, a Director will seek legal advice and obtain the consent of the Assistant Deputy Minister.

1.6.3 Prosecution

Directors may recommend prosecution as follows:

(a) In any case where it would be appropriate and just to do so, taking into account all the circumstances; or

(b) In place of, to supplement or to enforce Orders where, in their opinion, abatement would be successfully achieved more quickly.

1.6.4 Voluntary Abatement

The normal inspection and complaint investigation activities, followed by voluntary abatement actions, will continue and are not restricted by any of the foregoing points.

1.7 Report and Review Made Public

Where the company or owner has prepared the report referred to in 1.2, the Ministry will prepare a written review of it, and both reports will be made public, subject to the confidentiality of proprietary information. Both reports will be distributed to local MPP's and Municipal Officials.

1.8 Refusal to Prepare Report

Where the company or person refuses to prepare the report referred to in 1.2, the Ministry will prepare the report, and both the report and any response by the company will be made public. Both reports will be distributed to local MPP's and Municipal Officials.

1.9 Public Consultation

After making the company or owner's report and the Ministry's review public as in 1.7, or after making the Ministry-prepared report public as in 1.8, the Director will hold a public information session for significant pollution problems, or for pollution problems that generate high public interest. Local MPP's and Municipal Officials will be notified prior to the public information session.

1.9.1 Exceptions

Public information sessions will not be held for the following:

(a) Orders under Part VII of the Environmental Protection Act;

(b) Provincial Officer's Requirements;

(c) Stop or Emergency Orders;

(d) Prosecutions; and

(e) Orders for minor pollution problems.

1.10 Receipt of Public's Comments

After making the report public as in 1.9, or after holding a public information session, the Director will receive written comments from the public for a period of thirty days.

1.11 Director's Recommendation

After receiving public comment, the Director will take a course of action. Local MPP's and Municipal Officials will be notified regarding the Director's choice of action.

1.11.1 No Significant Alternative Proposals

If no significant alternative proposals are received in writing by the Director within thirty days of making his decision public, then the Director will sign the Program Approval or issue a Notice of Intent.

1.11.2 Significant Alternative Proposal

If a significant alternative proposal is received, then the Director will conduct a second public information session.

1.12 Director's Decision

If in the opinion of the Director a significant change in the abatement program becomes necessary as a result of step 1.11.2, then he shall proceed to renegotiate the program with the polluter.

1.13 Revised Program	Once a revised abatement program is produced, steps 1.5 through 1.12 shall be repeated if so required by the Director.
1.14 Publication and Distribution	Information regarding the following items will be available as specified:
1.14.1 Available at Regional, District and Head Offices	The Notice of Intent, any Program Approval, The Director's recommendation under 1.11, and the Director's decision under 1.12 will be available at Ministry Regional, District, and Head Offices.
1.14.2 Available at Regional Office	Written comment from the public, significant alternative proposals received under 1.11.2, and any revised abatement program will be available at the Regional Office.
1.14.3 Notice of Intent or Program Approval	The Notice of Intent or the Program Approval will be distributed to local MPP's and Municipal Officials.
2. Abatement Program Administration	All activities related to Program Approvals, Director-issued Orders, Control Orders, and Stop Orders will be carried out on a project management basis whereby a specified staff person is assigned the responsibility for management of abatement activities.
2.1 Delays Due to Financial Constraints	Any significant proposed delays in the implementation of an abatement program due to financial constraints will result in steps 1.5 to 1.12 being taken.

3. Abatement Program Compliance

3.1 Monitoring

To ensure compliance with Program Approvals and Orders the following activities will be undertaken:

(a) The polluter will monitor emissions or discharges and the ambient quality of air and water where specifically required by the Ministry.

(b) The above data will be reported to the Ministry and will be available for review by the public at the local Ministry office;

(c) The polluter will submit regular status reports(s) on its compliance with the Order or Program Approval;

(d) These reports (with the exception of proprietary information identified by the polluter and agreed to by the Ministry) will be available for review by the public at the local Ministry office;

(e) The Ministry will audit Items (a) and (c) above, and carry out any additional tests that may be required;

(f) The information provided by the polluter may be used for enforcement purposes.

3.2 Enforcement Action

3.2.1 General

Where a polluter is not presently under a Control Order or Program Approval, and there is a potential hazard to the environment, or where there is a discharge of a contaminant to the natural environment, the Ministry may prosecute, seek an injunction, or issue a Program Approval, Control Order, or Stop Order as conditions warrant.

3.2.2 Where a Polluter is Under a Program Approval or Order

(a) Where a polluter is under a Program Approval or Order and has not essentially complied with the intent of any item in the Order or Program Approval, then the Ministry will prosecute.

(b) Where a polluter is under a Program Approval or Order and is complying fully with its terms, the Ministry will not prosecute in respect of those items covered by the Order or Program Approval.

(c) Where a polluter is under an Order or Program Approval and is in violation of items not covered by a Program Approval or Order, and where conditions warrant, the Ministry may prosecute.

3.2.3 Prosecution by Other Parties

Where the Ministry has decided not to prosecute a polluter, the Ministry will make information regarding the pollution available to other parties upon request, subject to constraints imposed by legislation.

3.3 Amendments or Extensions

3.3.1 Increased Time or Loading

If the polluter wishes to significantly extend the time allowed in the Order or Program Approval or increase the loading above that specified, such amendments will be subject to the process described previously by items 1.5 to 1.12.

3.3.2 Shorter Time and Loading

If the polluter proposes a change with the same or shorter time frame, or the same or lesser loading, the Order or Program Approval will be amended by the Ministry and distributed to local MPP's and Municipal Officials.

3.3.3
Short Term
Extensions

When an extension is requested because of matters beyond the control of the polluter, the Ministry may extend an Order or Program Approval on a short term basis and it will be distributed to local MPP's and Municipal Officials.

Ministry of the Environment
Ontario

M.O.E. Policy Manual

POLICY TITLE	NO
POLLUTION ABATEMENT PROGRAM FOR THE PULP AND PAPER INDUSTRY	05-03-01

Legislative Authority

the Environmental Protection Act
the Ontario Water Resources Act

Statement of Principles

The policy is an industry-specific application of the Ministry's general pollution abatement policy entitled POLLUTION ABATEMENT PROGRAM: DEVELOPMENT, COMPLIANCE AND ENFORCEMENT, NO. 05-02.

1. Abatement Program Development Process

1.1 Program Approval Components

The Ministry will apply the following measure to the pulp and paper industry under Section 1 of its general policy POLLUTION ABATEMENT PROGRAM: DEVELOPMENT, COMPLIANCE AND ENFORCEMENT, No.05-02:

(a) After the Company or Ministry prepared report and the Company's response to the report are made public as in Policy 05-02, Section 1.8, the Ministry will decide upon the appropriate course of action. This will require the completion of an Authorization to Proceed Form.

Point of Contact

Operations Coordinator, Operations Division

Effective Date

May 26, 1981

2. Abatement Program Administration

2.1 Delays Due to Financial Constraints

Policy 05-02, Section 2.1 applies to the pulp and paper industry. The following also apply:

(a) The cyclical nature of profits in the industry will not be accepted as a reason for delay in program implementation. Ample opportunity exists to consider the potential effects of an abatement program on profits during the Abatement Program Development Process, Policy 05-02, Section 1.

(b) Companies are urged to take advantage of the opportunity to review and discuss available financial assistance programs during abatement discussions under Policy 05-02, Section 1.3.

(c) Financial constraints alone will not be an acceptable reason for not meeting the terms of a Control Order.

2.2 Delays Due to Other Factors

Policy 05-02, Section 3.3 Amendments or Extensions applies to the pulp and paper industry.

POLICY TITLE	PROCEDURES DURING LABOUR DISPUTES AFFECTING POLLUTION ABATEMENT	NO 05-04-01

Legislative Authority

the Environmental Protection Act
the Ontario Water Resources Act

Statement of Principles

This policy describes the policies and procedures to be followed by Ministry of Environment staff to avoid degradation of the environment when labour disputes interfere with municipal and industrial pollution abatement programs.

1. Municipal- Operation of Water and Sewage Facilities

1.1 MOE Assistance

The Ministry of the Environment will provide staff to assist municipalities in operating water and sewage treatment facilities during labour disputes only when qualified manpower is not available from other municipalities.

1.1.1 Application

This policy will apply only where there is reason to believe that service is falling below acceptable environmental standards.

Point of Contact

Operations Coordinator, Operations Division

Effective Date

October 21, 1981

1.1.2
Conditions for
MOE Assistance

MOE assistance to municipalities is subject to the following conditions:

(a) the municipality shall provide staff to supervise the operation of the facilities in question;

(b) the municipality shall make any arrangements necessary for police escort through picket lines;

(c) the municipality will make suitable arrangements for the housing of Ministry staff at the facility itself or at some other location at some distance from the project;

(d) Ministry assistance will be provided using management staff only;

(e) Ministry staff provided shall be from locations of at least fifty miles away from the municipality.

1.1.3
Costs to
Municipalities

Municipalities shall bear the costs relating to MOE assistance as follows:

(a) Ministry staff will be considered on duty and paid at their normal rate from the time they leave their residence until they arrive at the facility;

(b) the municipality will bear all additional travel expenses;

(c) Ministry staff will be paid at their normal salary for up to eight hours per day of duty time;

(d) Ministry staff will be paid at one and one half times their normal salary for additional duty time over 8 hours in a 24 hour period or over 40 hours in a 7 day period;

(e) Ministry staff will be paid at one and one-half times their normal salary plus 8 hours regular pay for any hours worked on a statutory holiday;

(f) Ministry staff will be paid at 1/3 of the normal rate for hours on stand-by time during a 24-hour period with a minimum credit of 2 1/2 hours pay regardless of the number of hours worked;

(g) if Ministry staff are required to live at the facility, all time spent inclusive of regular duty hours or overtime will be considered stand-by time;

(h) if Ministry staff are required to be available at their normal work location or at alternate housing, such time will be considered stand-by time;

(i) Ministry staff will not be granted vacation leave when they are providing service to municipalities.

1.2 Municipal Contingency Plans

To ensure satisfactory operation of facilities during labour disputes, municipalities should develop contingency plans which take into account assistance available from other municipalities.

2. Municipal - Construction of Water and Sewage Facilities

Where delay in construction of facilities due to labour disputes will prove critical to the environment, the Ministry will enforce its environmental legislation where the municipality has not taken all reasonable steps to expedite construction.

3. Industrial- Operation of Process and Pollution Abatement Facilities

3.1 Acceptable Emission Levels

When a company chooses to continue operations during a labour dispute, the Ministry will require the control of emissions at normal levels.

3.2 MOE Enforcement

Where a company chooses to continue operations, the Ministry shall do all things necessary, including the crossing of picket lines, to ensure compliance with environmental legislation.

4. Industrial - Installation of Abatement Facilities

4.1 Installation Schedule

Installation of abatement facilities must proceed according to schedule unless the Regional Director is satisfied, on receipt of a report submitted by the company, that the company cannot reasonably overcome delay caused by the dispute.

4.2 Short-Term Extensions

Where such delay is inevitable, the Ministry may extend schedules on a day-to-day basis or make such other reasonable extensions as circumstances indicate, including those to Control Orders and other enforcement measures.

4.2.1 "force majeure"

In keeping with 4.2. new or amended Control Orders and similar documents should include the following "force majeure" clause which is open for discussion at relevant public meetings:

"In the event of (the company) being rendered unable to perform or comply with any obligations herein because of:

(a) Act of God.

(b) Strikes, lockouts or other industrial disturbances.

(c) Inability to obtain materials or equipment for reasons beyond the control of the company.

The obligation hereof as they are affected by (a), (b), or (c) above shall be adjusted in a manner acceptable to the Regional Director. To obtain such an agreement, (the company) must notify the Director immediately of any of the above occurrences providing details establishing that no "reasonable" alternatives are feasible to meet the compliance date in question".

POLICY TITLE	NO
UNIFORM ENVIRONMENTAL ENFORCEMENT	05-05-01

Legislative Authority

Environmental Assessment Act
Environmental Protection Act
Ontario Water Resources Act
Pesticides Act
Provincial Offences Act

Statement of Principles

This policy describes the principles and procedures used by the Ministry to deliver a uniform approach to enforcing its Acts and Regulations. The Ministry will use an appropriate mix of legal remedies to ensure compliance with environmental law. The principles and procedures described below are to be applied to the public and private sectors.

Definitions

Control Documents

A control document is any written instrument which carries statutory authority. These include Minister's reports, licences, permits, certificates of approval, control orders, orders, requirements and directions and program approvals.

Point of Contact

Director, Investigations and Enforcement Branch

Effective Date

May 5, 1986

Occurrence Report

A written document by which environmental incidents are reported and recommendations for action identified.

1. Principles for Uniform Environmental Enforcement

1.1 Prosecution Principles

The Ministry will follow established principles of prosecution which include:

(a) Prosecution will be the result of an informed judgement which includes the proper exercise of prosecutorial discretion;

(b) Equal protection and benefit before and under the law;

(c) Prosecution will be administered in an even-handed, non-discriminatory and fair manner which advances and protects the public interest;

(d) Where there is sufficient evidence to prove all the essential elements of the offence but the proper exercise of prosecutorial discretion dictates no prosecution, the reasons for that decision shall be recorded in writing in the confidential investigative file;

(e) The penalty requested by the Crown Prosecutor upon conviction will be commensurate with the seriousness of the offence, and the circumstances of the offender including the cooperation of the offender.

1.2 Considerations in The Application of Prosecutorial Discretion

For the purpose of section 1.1 a proper exercise of the principles of prosecutorial discretion shall include consideration of:

(a) whether the violation poses a significant risk or adverse effect to humans or the environment;

(b) whether pollution from the source is a serious obstacle to achievement of Ministry air quality or water quality objectives;

(c) any unsatisfactory history of pollution control or negative attitude as indicated by the level of effort;

(d) any unsatisfactory record of compliance with Ministry orders;

(e) whether the violation seems deliberate in nature or, if not deliberate, the degree of negligence involved;

(f) whether there has been concealment of information;

(g) whether the violation was repeated or a warning was disregarded;

(h) whether the prosecution is likely to have a deterrent effect on the sector generally or on others;

(i) whether the credibility of the regulatory process with those regulated and the public requires prosecution; or

(j) whether failure to prosecute would tend to bring the law into disrepute.

A minor offence may be prosecuted by way of ticket procedures.

1.3 Control Documents

The Ministry will use control documents as a means of limiting, eliminating and controlling pollution in Ontario. Any control document issued by the Ministry will be binding and enforced.

1.4 Preparation of Control Documents

Subject to the legislation and to other policies, control documents should be prepared such that they:

(a) require intermediate steps in a control order to be completed in a timely and regular fashion;

(b) require the installation of the pollution control equipment by the date specified;

(c) require that pollution control equipment, once installed, is properly maintained and operated;

(d) require that pollution control equipment be upgraded or modified as required to prevent occurrences;

(e) specify the emission, discharge, and monitoring requirements that must be met;

(f) include procedures to be followed during start-up, shutdown and breakdown, maintenance and decommissioning periods;

(g) require that once equipment is installed, the person responsible so certifies in writing; and

(h) require that once installed equipment is operating as required, the person responsible so certifies in writing.

1.5 Responsibility for Emissions and Discharges

The operator of any facility is at all times including during start-up, shutdown, breakdown, maintenance or decommissioning responsible to control emissions and discharges.

1.6 Changes in Status

The Ministry will ensure that conditions be included in all control documents requiring that the person subject to them report any significant changes that are made in the operation of the facility, emissions or discharges, or the legal status of the operation.

1.7 Requests for Abatement

(a) Where the Ministry makes a written request for action to reduce, prevent or eliminate pollution, a reasonable time to comply will be specified;

(b) In cases where compliance with written requests is not forthcoming within 180 days maximum, the Director and the Investigations and Enforcement Branch will apply formal sanctions against the polluter. This does not prevent the application of sanctions in a shorter time period. Sanctions may include additional terms or conditions on an approval or control order, or prosecution.

(c) Policy 05-02 Pollution Abatement Program: Development, Compliance and Enforcement describes the Ministry's abatement program.

2. Procedures for the Implementation of Uniform Environmental Enforcement

2.1 Monitoring

Control documents will be reviewed regularly by the Operations Division to ensure compliance based on regular inspection, testing and monitoring consistent with administrative priorities and the nature of the facility.

2.2 Evaluation Procedures

The Director of the Approvals Branch will develop procedures for evaluation of applications for approval and apply them when considering applications.

2.3 Control Document Update

A periodic review should be undertaken by the Regional Director of control documents issued by the Ministry to ensure that they are current.

2.4	Occurrence Reports	Ministry staff will be required to document in an Occurrence Report any observed or reported violations. Also any action requested by the Ministry to address an occurrence should be documented in writing.
2.5	Examination of Financial Capability	Policy 02-01 Guidelines for an Economic Analysis of Private Sector Pollution Abatement and Environmental Protection Measures describes the content and application of economics and financial analyses to pollution abatement activities.

May 6, 1986

Ministry of the Environment
Ontario

M.O.E. Policy Manual

POLICY TITLE	NO
FINANCIAL ASSISTANCE FOR MUNICIPAL WATER AND SEWAGE SERVICE	06-01-01

Legislative Authority

the Ontario Water Resources Act

Statement of Principles

This policy concerns the programs of the Ministry of the Environment directed towards assisting the construction of municipally-owned communal water and sanitary sewage works and the repair or renewal of private water and sewage systems (the Direct Grant Program) and the construction of rural water pipeline extensions (the Rural Water Pipeline Extension Program). The number of projects assisted annually is limited by funds available. Projects are selected for award of grants by means of a Project Priority Evaluation system. Grant amounts are based on population levels in the municipality serviced.

1. Direct Grant Program

1.1 Grants for Major Works — Any municipality can apply for a grant towards the capital cost of major components of communal water and sewage works.

Point of Contact

Director, Project Engineering Branch

Effective Date

February 24, 1981

1.1.1 Eligible Works

Eligible works include: for water supply - intakes, treatment and storage facilities and trunk feedermains; for sewage - treatment facilities, outfall and trunk sanitary sewers and associated pumping stations.

1.1.2 Priority

Priority is given to:

(a) works to service an area encompassing more than one municipality;

(b) works providing for an increased supply of serviced lots in growth areas.

1.1.3 Amount of Grants

Grants are equal to 15% of approved capital cost after deduction of federal or Provincial grants.

1.1.4 Area Schemes

Details regarding the application of this policy to area schemes may be found in Policy 06-04 FINANCIAL ASSISTANCE FOR MUNICIPAL AREA SCHEMES.

1.2 Grants to Small Municipalities

A small municipality is defined here as an improvement district, village, township, town or separated town where the existing population is 7,500 or less.

Small communities which are part of a larger municipality with a population exceeding 7,500 may be eligible for grants provided that the community is well defined as a separate entity with respect to servicing requirements, and the residents of the community would bear the full cost of the project, net of subsidies.

1.2.1 Eligible Works

Small municipalities can apply for grants towards the cost of:

(a) new communal water and sewage works to service existing communities;

(b) extensions to existing works;

(c) replacement of existing substandard water or sewage systems to meet MOE guidelines or standards;

(d) new major works or extensions to major works to service development;

(e) local distribution and collection works.

(f) repair or renewal of systems serving homes that are principal residences in defined problem areas.

1.2.2 Conditions

Other conditions include:

(a) substantially all the built up areas must be serviced;

(b) where buildings have means of access to the service, municipalities must require that a connection be made, in accordance with Section 219 of The Municipal Act;

(c) works must conform to the requirements of an official plan.

1.2.3 Priority

Priority is given to projects according to their contribution to health and environmental benefits and the servicing of urban growth.

1.2.4 Amount of Grants Calculation

Grants are calculated, after deduction of federal or other grants, in accordance with the following formula:

Grant (% of Approved Cost) = 95.77 - (0.01077 x P)

P = Population (derived from the assessment roll)

Maximum Population - 7,500
Maximum Grant - 85% where P = 1,000 or less
Minimum Grant - 15% where P = 7,500

Grant will be based on lowest responsible tender received.

1.3 Communities in Regional Municipalities

Certain specified communities in Regional Municipalities may be eligible for grants.

1.3.1 Conditions

(a) Costs will be shared as follow:

(i) community population - 1,000 or less:

	% of Approved Cost
Ministry grant	60
Regional Municipality	25
Area Municipality	15

(ii) community population over 1,000 but under 7,500: grant will be calculated according to the formula in 2.4 and divided between the Ministry and the Regional Municipality in the ratio 0.7 to 0.3; the area municipality to pay the remaining cost.

(b) Award of the Ministry's grant will be subject to agreement by the Regional Municipality to provide its share of costs.

1.3.2 Amount of Grants

Ministry grant will be based on lowest responsible tender received.

2. Rural Water Pipeline Extension Program

Any municipality may apply for a grant for the construction of water pipeline extensions in rural areas outside urban boundaries. Pipeline projects not qualifying under 1.2 may qualify under this program.

2.1 Conditions

(a) Grants will be made towards minimum systems, consisting of small diameter watermains to serve residential uses except fire protection and most farm uses except irrigation.

(b) Each rural water pipeline extension is subject to approval of the Ministries of Agriculture and Food and of Municipal Affairs.

2.2 Amount of Grants

Grants equal 25% of approved cost after deduction of federal or Provincial grants. Grants will be based on lowest responsible tender received.

3. Payment of Grants

Grants of 15% are paid upon proof of contract award less a 10% holdback. Grants greater than 15% are made as quarterly advances against projected expenditures less 10% holdback. Final payment is made against audited final costs.

4. Engineering Studies

Upfront grants are available towards the cost of engineering reports and final design, as follows.

4.1 Ineligibility

Rural water pipeline extensions are not eligible for grants towards engineering reports and final design.

4.2 Conditions

Ministry must participate in preparation of terms of reference for engineering studies, and must approve final report.

4.3 Amount of Grant

Grant provided will be at same percentage level as capital grant.

4.4 Payment

4.4.1 Study Report

Fifty percent of grant paid on submission of report; balance paid on its approval by Ministry.

4.4.2 Detailed Design

Payment is made as quarterly advances against projected expenditure, adjusted by actual.

5. Project Priority Evaluation System

5.1 Evaluation System for Grants to Municipalities

Projects submitted by municipalities will be evaluated for two purposes:

(a) For acceptance or rejection for grant assistance;

(b) To set priorities for assistance.

5.2 Grants for Major Works

Projects will be graded according to the contribution made to achieving defined objective units, which are given an agreed weighting as an indication of relative importance.

	Objective Units	Weightings
(a)	Percentage increase in serviced population	4
(b)	Total new population serviced	4
(c)	Correction of existing problems which have caused delay in approval of urban development	3

5.2.1 Grading Procedures

The Project Assessment Value is used to set priorities for project assistance. It is determined by adding the weighted gradings of each project on three objective units as follows:

(a) Objective Unit: Percentage increase in serviced population

Design population to be serviced by facility ..... a

Current population serviced by facility ..... b

Percentage increase in serviced population ..... $c = \frac{(a-b)}{b} \times 100$

Percentage increase in serviced population:

(c)	Grading
1% to 10%	1
11% to 25%	2
26% to 50%	4
50% +	5

(b) Objective Unit: Total new population serviced

Increase	Grading
0 to 500	1
501 to 750	2
751 to 1,000	3
1,001 to 1,500	4
1,501 to 2,000	5
2,001 to 3,500	6
3,501 to 5,000	7
5,001 to 7,500	8
7,501 to 10,000	9

Increase	Grading
10,001 to 12,500	10
12,501 to 15,000	11
15,001 to 17,500	12
17,501 to 20,000	13
20,001 to 25,000	14
25,001 to 30,000	15
30,001 to 40,000	16
40,001 to 50,000	17
50,001 to 60,000	18
60,001 to 100,000	19
100,000+	20

(c) Objective Unit: Correction of existing problems which have caused delay in approval of urban development

Period of Delay	Grading
Over 3 years	4
Over 2 to 3 years	3
Over 1 to 2 years	2
Up to 1 year	1
No delay	0

5.2.2 Calculation of Project Assessment Value and Priority Ranking

The value of the grading x weighting is calculated for each objective unit. The Project Assessment Value is the sum of these.

5.2.3 Level of Provincial Support

Where a project is accepted, the amount of assistance to be provided will be 15% net of Federal or Provincial grants.

Example:

Objective Unit	Municipality X Grade x Weighting	Y Grade x Weighting	Z Grade x Weighting
Percentage increase in serviced population	4 x 4 = 16	2 x 4 = 8	4 x 4 = 16
Total new population serviced	3 x 4 = 12	10 x 4 = 40	6 x 4 = 24

Objective Unit	Municipality X Grade x Weighting	Y Grade x Weighting	Z Grade x Weighting
Correction/ delay	2 x 3 = 6	4 x 3 = 12	3 x 3 = 9
Total Project Assessment Value	34	60	49
Priority	3	1	2

5.3 Projects in Small Municipalities

Projects are assessed on the basis of the following objective units:

(a) The removal of health hazards;

(b) Environmental protection;

(c) Accommodation of growth; and

(d) Community enhancement.

5.3.1
Calculation

Example:

Assigned Objective Units:	Weighting	x	Grading	=	Assessment
HEALTH	150	x	5	=	750
ENVIRONMENT	75	x	3	=	225
GROWTH	100	x	4	=	400
ENHANCEMENT	10	x	2	=	20
			Assessment Value		1,395

5.3.2
Project Scoring

The assessment value is used to determine whether Provincial Assistance will be granted (minimum score must be achieved) and to set priorities for project assistance.

5.3.3
Level of Provincial Support

Where a project is accepted, the amount of assistance to be provided will be up to 85% net of Federal or Provincial grants.

POLICY TITLE	PROJECT MANAGEMENT OF DIRECT GRANTS ASSISTED WATER AND SEWAGE PROJECTS	NO 06-02-01

Legislative Authority

the Ontario Water Resources Act

Statement of Principles

This policy describes the Ministry's goals regarding the provision of project management services to municipalities that it assists with direct grants for water and sewage projects. It outlines eligibility criteria, a procedure for authorizing project management, and the components of such management.

1. Eligibility for Project Management

1.1 Municipal Responsibility

It is the intent of the Ministry that municipalities be responsible for project management whenever feasible. The Ministry will, however, provide management to municipalities lacking resources and expertise.

Point of Contact

Director, Project Engineering Branch

Effective Date

February 24, 1981

1.2 Criteria for Eligibility

Municipalities requesting project management services must meet all of the following criteria:

(a) the municipality must have a population less than 7,500;

(b) the municipality is not located in a Regional, District or Restructured Municipality;

(c) the municipality must be in receipt of an MOE grant;

(d) a proper Resolution of Council has been received;

(e) the municipality has had no previous experience with a comparable project;

(f) the project in question is a major or complex project.

2. Authorization of Project Management Procedure

2.1 Coordination with Project Priority Evaluation

In coordination with a Project Priority Evaluation, (see Policy 06-01) the following steps will be followed.

2.2 Resolution of Council

The municipality submits a Resolution of Council requesting Project Management, to the Regional Director.

2.3 Regional Report

The Region submits its recommendation on eligibility for Project Management to the Project Engineering Branch.

2.4 Branch Report to ADM Operations Division

The Project Engineering Branch makes a recommendation regarding eligibility to the Assistant Deputy Minister, Operations Division, for confirmation and submission to the Deputy Minister for approval.

3.	Components of Project Management	Project management by the Ministry should include all of the following elements:
3.1	Management Agreement	MOE will prepare and execute a project management agreement with the municipality.
3.2	Consultant Selection	MOE in conjunction with the municipality will select a consultant to investigate the problems and design the facility.
3.3	Engineering Agreement(s)	MOE will prepare and ensure execution of engineering agreement(s) between the consultant and the municipality.
3.4	Design Stage Procedures	MOE will handle the design stage procedures which include acting as an agent of the municipality and handling administrative details such as applying to the Ontario Municipal Board, obtaining necessary approvals and applying for MOE and Federal grants.
3.5	Tender	MOE will handle tender calls, tender review and contract award in conjunction with the municipality.
3.6	Construction	The consultant is responsible to MOE as agent of the municipality for management of construction.

Ministry of the Environment
Ontario

M.O.E. Policy Manual

POLICY TITLE	FINANCIAL AUDIT OF WATER AND SEWAGE PROJECTS ASSISTED THROUGH MINISTRY DIRECT GRANTS AND THE FEDERAL COMMUNITY SERVICES CONTRIBUTION PROGRAM	NO 06-03-01

Legislative Authority

N/A

Statement of Principles

This policy describes the requirements of the Provincial Auditor with respect to projects assisted by the Ministry and the Federal Community Services Contribution Program.

1. Provincial Auditor's Requirements

   The Provincial Auditor requires that water and sewage projects assisted by Ministry direct grants or by the Federal Community Services Contribution Program receive financial audits to confirm that the costs identified are eligible for assistance.

2. Action By MOE Management Audit Branch and Project Engineering Branch

   An engineer from Project Engineering Branch will be delegated to identify for the auditor items (if any) included in the certified statement of final costs that are ineligible with respect to the Ministry Direct Grant.

Point of Contact

Director, Management Audit Branch

Effective Date

February 17, 1981

In addition, he is to provide Management Audit Branch with:

(a) A copy of the authorization and/or approval for the Direct and/or CSCP Grant;

(b) Details of the calculation of the percentage and amount of Grant(s).

(c) A copy of a Ministry Certificate of Expenditure, if applicable, issued by Financial and Capital Management Branch.

Where the project also qualified for a CSCP grant, the engineer will be required to identify for the auditor those items which are eligible for inclusion in calculating the CSCP grant.

The engineer and auditor will co-sign the Certificate of Eligibility.

3. Eligible Costs

The following specifies costs that are eligible for grants:

3.1 Land Costs

(a) Only the cost of land area actually used for a treatment plant or a pumping station is eligible. The cost of land for sewers or watermain is not eligible. The cost of land required to obtain isolation (buffer zone) distances to meet Provincial standards is eligible. The costs of easements are not eligible, but the legal costs of arranging easements are;

(b) Only the cost of the land area actually used is allowed. No portion of the land cost may be four land held for other or possible future uses even if by necessity extra land is purchased with the land used;

(c) The cost of the land to be included in the eligible cost is to be the actual cost of the land to the municipality regardless of the date when the land was purchased;

(d) Any property taxes paid as part of the land cost to a former owner are allowable, but, no amount is allowable in lieu of tax for any period when title is with the municipality.

(e) Legal, survey and appraisal fees incurred at the time of purchase may be included in either "Legal" or "Miscellaneous" categories.

3.2 Construction Costs

These will include amounts actually and properly paid to contractor(s) for the performance of the work covered by the plans and specifications for the projects.

(a) Total allowable construction costs are eligible even if they have not yet been paid as long as there is a contractual obligation of a fixed amount to be paid; normal holdbacks are allowable; other disputed costs may be eligible once final settlements are made.

(b) The cost of change orders to plans and specifications are allowed. Also, costs of work done on a cost-plus basis or on purchase orders are allowed if pertinent to the same project whether done by a contractor or the municipality with its own forces.

(c) Cost of repairs and damages to streets, roads, railways, easements, public utilities and other similar costs are allowed as a cost if these are specifically related to the project's construction. However, for example, it is not intended to recognize the cost of a street and road being completely reconstructed rather only the cost of restoring the "as was" condition is recognized.

(d) Cost of unfinished work is not allowed as construction cost.

(e) The cost of awards made to the Contractor by a Board of Arbitration or a court of law are eligible if relevant to the project.

(f) If a contractor does work that is partly eligible and partly ineligible as is the case when sewers and laterals are done under the same contract as trunk and collector sewers, the cost of each must be determined.

(g) A consultant's final certificate regarding construction is considered good voucher evidence of the final cost of the related wok. If the municipality does the work the vouchers should be checked in detail.

(h) Should a municipality utilize the municipality's own forces to perform all or part of the construction work, the calculation of construction costs eligible for grants may include a payroll burden to be added to labour costs.

Such a payroll burden can include actual fringe benefit payments (including paid vacation, statutory holidays, sick leave, down time, etc.) as charged by the municipality to its own public works projects, based on a formula that excludes overhead or administrative expenses, and is deemed reasonable and acceptable by the MOE.

3.3 Engineering Costs

For CSCP and MOE Direct Grant purposes, actual costs of design and/or supervision of construction of the project in accordance with the rates established by the Association of Professional Engineers of the Province of Ontario are eligible. For construction begun prior to April 1, 1980, a flat rate of 12% of the construction costs is allowed for MOE Direct Grant purposes.

(a) The cost allowed cannot be more than the actual amount paid to the consultant(s).

(b) Design cost is limited to those costs related to the specific project for which the grant is made and is not to include any part of the cost of an overall study or survey of pollution problems and control. Preliminary surveys and report costs are not allowable unless they relate exclusively to the project and are necessary for proper design.

(c) If any part of the design and/or supervision is supplied by the applicant's own forces the cost is limited to not more than the fee and costs that might have been paid according to the scales of the Association of Professional Engineers of Ontario.

(d) In any event no cost may be included that might be considered an administrative or executive cost of engineering supervision.

3.4 Materials and Equipment Costs

The amounts actually paid for materials and equipment used in or located at the site and required in connection with the projects are eligible where such amounts are not included under 3.2

(a) Materials supplied by the municipality if not in the contract price may be allowed as a cost but only in the exact amount that the municipality paid for them. There can be no other added amount for administration or handling.

(b) Only materials actually delivered to the site will be allowed.

(c) The cost of movable equipment not included in the permanent works such as loaders, spare pumps, trucks, are not eligible.

(d) Where a municipality uses its own equipment in the construction of the project, a charge for the use of equipment is allowable. The allowable charge is to be calculated on the same basis as the municipality charges the use of the same equipment to its public works projects.

3.5 Legal Costs

Amounts actually paid for legal services are eligible subject to the following:

(a) Fees for a solicitor on the municipality's staff are not eligible. However, disbursements to third parties for items such as registration, legal surveys, and appraisals are allowed.

(b) Miscellaneous expenses of the municipality which are required in connection with the project can be included under legal expenses. Examples are advertising regarding by-laws, disbursements for permits to other municipalities; any provincial fee or charge; advertising for tenders; or insurance for public liability.

(c) The legal services paid for must relate solely to the project and are not to be administrative or executive in nature.

3.6 Interest (CSCP only)

Interest paid or payable during the period of construction must meet the requirements below for eligibility:

(a) The period of construction can only start at the date of commitment of the funds and must end at the completion date of the project which is always a month-end. Completion data is that date on which the works were put into operation or the date shown on a Certificate of Completion as the date of substantial completion, whichever is the earlier.

(b) The interest cost may be taken as the cost of the effective debenture rate. Premiums and discounts must be amortized to fix the effective debenture rate.

(c) Bank interest charges are to be at the rate paid.

(d) The funds must be borrowed from a third party, but this can be another sector of a municipal operation provided that no tax funds are borrowed.

(e) The total amount of funds borrowed must equal total funds paid to third parties for the project. However, borrowings do not have to match exactly outlays during the period of payment.

(f) If a municipality can give evidence of borrowings in the amounts expended for the project, the interest costs incurred will be entirely allowable even though it can be demonstrated that there were a number of other capital projects under construction during the same time period. Where evidence cannot be given, interest costs should be pro-rated between all the projects, if possible, or excluded. No interest will be allowed on municipal tax funds used to finance the project.

(g) No interest is allowed for the costs covered by the MOE Direct Grant(s) as the grants are paid "up-front".

3.7 Miscellaneous Costs

Other costs may be approved subject to the following:

(a) The same cost cannot be recognized for two separate projects. Such costs should be pro-rated as and if necessary.

(b) The cost of the project will not include any charge or allowance for municipal administration or executive costs.

3.8 Finalization of Eligible Costs

In order to state eligible costs for both grants under one audit, the CSCP Grant (excluding any interest consideration) will be finalized when the audit is performed. While the municipality may subsequently receive a larger amount as a CSCP grant than the amount used in the calculation of the Ministry grant, due to the inclusion of interest charges, it would not be equitable to deduct the interest included in the CSCP payment thus reducing the Ministry grant since eligible cost will not include any interest charges.

3.9 Verification of Final Cost Statement

Where a CSCP Grant is involved the auditor will have two eligible costs to determine. Using the information supplied by the engineer, the auditor will proceed to verify the costs using standard auditing techniques.

During the audit, the auditor must receive a certified list of all Provincial and/or Federal Grants received on the project.

The municipality must also provide Internal Audit Branch with details of any interim financing involved with respect to the CSCP Grant.

4. Final Payment

Based on the audited statement of costs, Project Co-ordination Branch will prepare final payment forms and forward to Financial Services Branch using the same procedures that apply to other grant payments.

4.1 Overpayment

Based on audited statement costs, Project Engineering Branch will prepare final advance forms indicating overpayment and forward to the Capital Financing Section, Financial and Capital Management Branch, for the preparation of an invoice to the Municipality.

POLICY TITLE	NO
FINANCIAL ASSISTANCE FOR MUNICIPAL AREA SCHEMES	06-04-01

Legislative Authority

the Ontario Water Resources Act

Statement of Principles

This policy describes the development and application of Policy 06-01 FINANCIAL ASSISTANCE FOR MUNICIPAL WATER AND SEWAGE SERVICE to municipal area schemes. Reference should be made to that document if greater detail is required.

Definition

Area Schemes — "Area Schemes" refers to a sewage or water works system that provides service to more than one municipality which has jurisdiction over sewage or water service.

1. **Area Schemes Under Grants for Major Works Program** — Area schemes are covered by the provisions for Grants for Major Works described in Policy 06-01, Section 1.

2. **Alternatives for Area Schemes** — The Ministry of the Environment intends that area schemes be designed to follow the alternatives below in descending order of priority:

Point of Contact

Director, Project Engineering Branch

Effective Date

February 16, 1981

(a) Municipalities should establish their own joint board of management to be responsible for project management (i.e., planning and construction), loan financing, plant operation, and works ownership wherever feasible. Section 208, para. 5 of the Municipal Act authorizes the formation of joint boards of management.

(b) The same as (a) above except where municipalities are unable to provide project management, MOE may provide this service. Please refer to Policy 06-02 for details on the provisions of project management.

(c) Where municipalities are unable to form their own joint board of management, or otherwise reach agreement on an area scheme, MOE may coordinate the area scheme and provide the services listed in 2(a) above. At the request of a municipality or MOE, the Ontario Municipal Improvement Corporation (OMIC) will assist in obtaining loan financing from private sources or provide loan funds if required.

3. Provincial Involvement

Provincial involvement in area schemes may include the following:

3.1 MOE Coordination

MOE may initiate and coordinate area schemes under the provisions of Section 2 above including implementing necessary engineering studies.

3.2 Project Management and Other Assistance

Project management or other assistance that may be required will be determined at the outset of project planning.

3.3	Alternate Financing Arrangements	Alternate financing arrangements as in Section 2(d) above will require approval of Management Board.
3.4	Engineering Studies	MOE may provide funds to support engineering studies on potential area schemes.

POLICY TITLE	NO
OPERATION OF WATER AND SEWAGE WORKS FACILITIES	06-05-01

Legislative Authority

the Ontario Water Resources Act, Section 7

Statement of Principles

This policy statement describes the Ministry's intention that municipalities should generally operate water and sewage works facilities.

1. Objectives Of Policy — The objectives of this policy are that municipalities should be responsible for plant operations wherever feasible and that the Ministry should phase out its existing plant operating activities.

2. Application Of Policy To Categories Of Projects — The following rules apply to individual categories of projects:

   2.1 Ministry Constructed Projects — The Ministry may continue to operate facilities, where required, under individual agreements.

   2.2 All Other Projects — Municipalities are to be responsible for operations wherever feasible.

Point of Contact

Director, Project Engineering Branch

Effective Date

February 16, 1981

Ministry of the Environment
Ontario

M.O.E. Policy Manual

POLICY TITLE	NO
GUIDELINES FOR COMMENTING ON LAND USE PLANNING MATTERS	07-02-01

Legislative Authority

the Environmental Protection Act
the Environmental Assessment Act
the Planning Act
the Ontario Water Resources Act

Statement of Principles

This policy is designed to guide Ministry staff in commenting on land use planning matters. Ministry staff regularly review and comment on Official Plans, Official Plan Amendments, Plans of Subdivision, Zoning By-Laws and Consents. Staff also advise on land use-related plans and activities of other Ministries and the private sector.

1. Scope of Comments

Staff should comment on those matters which are related to the Ministry's mandate.

Normally staff should refrain from commenting on matters which are outside the Ministry's mandate. If it is considered advisable to comment on a matter outside of the Ministry's mandate, then these comments should be clearly separated from those on matters within the Ministry's mandate and the reason for commenting should be given.

2. Exclusion for Environmental Assessment Act

These guidelines do not apply to the review of submissions made under the Environmental Assessment Act.

Point of Contact

Director, Approvals Branch

Effective Date

October 21, 1981

3. Subjects Appropriate for MOE Comments

The following subjects derived from the Environmental Protection Act, the Ontario Water Resources Act, the Environmental Assessment Act and the Planning Act are appropriate for MOE comments:

(a) sewage treatment and water supply including under-utilization of existing systems;

(b) quality and quantity of water in lakes, rivers, streams, aquifers;

(c) urban drainage management;

(d) waste management;

(e) soil contamination;

(f) air quality, air pollution, air management; including plume interception;

(g) noise and vibration;

(h) incompatible or conflicting land uses e.g., land use around sewage treatment plants and/or industrial sites;

(i) Agricultural Code of Practice;

(j) interministerial and intergovernmental agreements on certain policy matters, e.g., Canada-Ontario Water Quality Agreement, Trans-Boundary Air Quality (Windsor-Sarnia);

(k) the Environmental Assessment Act as related to matters described in a land use plan;

(l) compliance with any conditions in an approval issued under EPA, OWRA or EAA.

4. Subjects Generally Not Appropriate for MOE Comments (note exceptions)

(a) policies on public participation, except where public consultation is required by an Act administered by MOE;

(b) aesthetics, except where such things as standards or criteria for air and water quality, regulations on litter are concerned;

(c) lot sizes except where sewage and water services are involved;

(d) parks and recreational areas except where odour, noise, necessary services or urban drainage are involved;

(e) schools and school sites except for servicing;

(f) preservation of foodlands except as may be related to the Agricultural Code of Practice;

(g) transportation facilities except as related to noise, vibration, air pollution, water pollution, and necessary services;

(h) conformance to upper tier official plans or to the official plan in the case of an amendment;

(i) population targets except as related to servicing and waste disposal including capacities;

(j) social, cultural and economic matters such as housing mix and densities except where servicing is involved;

(k) preservation of wildlife habitat, flora, fauna, fisheries, and environmentally sensitive areas except as may be related to air and water quality criteria or guidelines;

(l) flood plains or hazard lands except where water quality and quantity or servicing are involved.

5.	Style and Nature of Comments	Except where the connection is obvious, for example on air or water quality or on servicing, comments should clearly indicate the relationship between the issue involved and the Ministry's mandate.
6.	Requests for Extension of Time Limits	Every effort shall be made to forward comments within the established time limit. When it is impossible to do so a request for more time shall be made, giving the reason.

POLICY TITLE	NO
LAND USE COMPATIBILITY	07-03-01

Legislative Authority

the Environmental Protection Act
the Ontario Water Resources Act
the Environmental Assessment Act
the Planning Act
the Condominium Act

Statement of Principles

This policy identifies the direct interest of the Ministry of the Environment in recommending separation distances and other control measures on land use planning proposals to prevent future incompatibilities between land uses. The policy statement sets the context for all existing and new policies related to land use compatibility. The intent is to achieve a reasonable degree of protection that supplements practicable emission controls, without unduly restricting land use.

DEFINITIONS

Buffer

In a land use context, a buffer can be:

1. a space; or
2. a feature; or
3. a landuse; or
4. any combination of the above,

interposed between two conflicting land uses for the purpose of reducing or eliminating the adverse effects of one land use upon the other. A buffer may be open space, where distance alone is relied upon to produce the desired results, or it may be a berm, wall, trench, fence, or other structure or plantings, or other land use different from the two conflicting ones, but compatible with both.

Point of Contact

Manager, Operational Services Section, Approvals Branch

Effective Date

December 1, 1981

Influence Area	The area(s) identified around a source(s) of emission subject to one of a number of adverse environmental effects of varying duration, frequency and distance of dispersal.
Buffer Area	The area between an emission source(s) and nearby sensitive land uses where land use controls are used to minimize any significant adverse effects. It can be of variable size, shape and composition to produce the desired results and apply to all or part of an Influence Area.
Land Use Compatibility	A recognized factor and principle of good land use planning, whereby land uses which are known or expected to cause environmental problems for one another, when in proximity, are deemed incompatible and are protected from one another by separation or other means.
Application	The policy applies in all cases where a proposed change in land use has the potential to create significant adverse environmental effects on another land use(s). This includes application of the policy to municipal planning proposals and other development applications reviewed by the Ministry of the Environment, where the Ministry's advice is requested under other Agencies' Legislation; in particular, in the review of official plans and amendments, zoning by-laws and amendments, plans of subdivision, consents, etc. The policy is applicable: (a) where new residential uses or other sensitive uses are proposed within the influence area of existing emission sources; and/or,

(b) where new sources of emission are proposed close enough to existing residential uses, or other sensitive uses, so as to adversely influence them.

1. Objective of Policy

The objective of this policy is to minimize the exposure of humans, including existing and future residents, to the adverse environmental effects of certain incompatible land uses.

2. Scope of Policy

This policy involves all land uses conflicting with residential use, or other sensitive uses, including certain:

2.1 Land Uses

(a) industrial uses;
(b) transportation facilities;
(c) utilities;
(d) agricultural operations;
(e) commercial uses; and
(f) intensive recreational uses.

2.2 Environmental Effects

Certain kinds of adverse environmental effects from these uses are difficult to practically control, at the source, under all circumstances, all of the time. They include:

(a) noise and vibration;
(b) gas;
(c) odour;
(d) particulates; and
(e) other contaminants.

3. Policy Statement

It is the policy of the Ministry of the Environment to recommend the separation of incompatible land uses, where necessary, in the review of land use plans as a preventive means of achieving environmental objectives of the Ministry. There is an Influence Area around certain facilities or land uses, subject to emissions, usually of a nuisance

nature, where exposure of residents and other sensitive uses should be minimized. These areas should be identified at an early stage in land use planning. Necessary environmental control measures, such as placing Buffer Areas between emission sources and residential or sensitive land uses, should be applied, to supplement practicable emission controls, but not to take the place of such controls.

4. Policy Implementation

The policy on land use compatibility will be implemented by the Ministry of the Environment in two ways:

1. by staff in reviews of proposed planning documents to the appropriate approval authority;

2. through Regulations, detailed policies, guidelines and studies. In their absence, staff will use best professional judgement and available information.

Ministry of the Environment
Ontario

M.O.E. Policy Manual

POLICY TITLE	NO
ENVIRONMENTAL INFORMATION FOR LAND USE PLANNING PURPOSES	07-04-01

Legislative Authority

the Ontario Water Resources Act
the Environmental Protection Act
the Environmental Assessment Act
the Planning Act

Statement of Principles

This policy states the Ministry's position regarding the need and support for the gathering and preparation of background environmental information for Land Use planning purposes. This policy is to guide staff in advising municipalities and others on the amount and type of environmental information gathered for Land Use planning purposes.

1. Scope

In this policy "land use" also includes the use of water and air related to the land. This policy applies to planning information:

(1) gathered or prepared by other ministries, government agencies, municipalities, developers, educational institutions or private organizations;

(2) that relates to environmental matters, in particular, matters of direct concern to this Ministry identified in Policy No. 07-02, "Guidelines for Commenting on Land Use Planning Matters".

This policy does not apply to studies associated with specific works or facilities for which approval is being sought under the Ontario Water Resources Act, the Environmental Protection Act and the Environmental Assessment Act.

Point of Contact

Director, Approvals Branch

Effective Date

January 18, 1983

2. Policy

In order to review and provide comments on land use planning matters, the Ministry will require that adequate environmental information is provided on the matter. This information should be gathered or prepared at a stage sufficiently early in the planning process to ensure that it is available to those involved at the various points in the process where decisions are made.

To this end, the Ministry will encourage and support the gathering and preparation of information that will lead to improved environmental management. In particular, information leading to the detection, identification, avoidance, prevention or minimization of environmental problems and the need for expensive remedial or corrective measures or schemes.

The encouragement and support will be appropriate to the situation at hand and may be given jointly with other ministries or agencies. It may involve such things as, the provision of background data, joint work arrangements, sampling and analytical results, as well as professional and policy advice associated with background planning studies or investigations. Direct funding will not be provided.

Ministry of the Environment
Ontario

M.O.E. Policy Manual

POLICY TITLE	GUIDELINES FOR COMPATIBILITY BETWEEN SEWAGE TREATMENT FACILITIES AND SENSITIVE LAND USES	NO 07-05-01

Legislative Authority

the Ontario Water Resources Act, Sections 7(d) & 24
the Planning Act, Sections 14, 30(3), & 36

Statement of Principles

This policy is intended to minimize the effect of odours emanating from municipal and private sewage treatment plants and lagoons on sensitive adjacent land uses. The policy is an application of the Ministry's Land Use Compatibility Policy No. 07-03.

The separation distances specified in the policy are intended to mitigate the effects of offensive odours which may occur during normal daily operations or when facilities have minor overloads or upsets created by abnormal conditions or wastes. Since odour usually extends further than other environmental impacts associated with sewage treatment facilities, the separation distances will ensure adequate attenuation of any other environmental concerns.

1. Scope of Policy

The policy is applicable to waste stabilization ponds and sewage treatment plants. Plants are categorized into two classes: those with a design capacity equal to or less than 25,000 cubic metres of sewage per day (m^3/d) and those with a capacity greater than 25,000 m^3/d.

Point of Contact

Director, Approvals Branch

Effective Date

September 7, 1983

The policy is not appropriate for dealing with the effects of major overloads or plant breakdowns on residential and other sensitive land uses.

2. Application

These guidelines apply to all Certificate of Approval applications under the Ontario Water Resources Act, Section 24, for new and expanding municipal and private sewage treatment facilities. The guidelines also apply to the advice that MOE provides to the Ministry of Municipal Affairs and Housing under the Planning Act. This relates to all development or redevelopment applications for residential or other odour-sensitive land uses adjacent to sewage treatment facilities.

3. Separation Distances

3.1 Residential Land Use

Where practical, residential uses should not be placed adjacent to treatment facilities.

3.2 Acquisition of Buffer Areas

When new facilities or major enlargements are proposed, an adequate buffer area should be acquired as part of a project in order to avoid imposing constraints on surrounding land use. Separation distances will be measured from the proposed odour-producing source to the facility lot line in this case.

Exceptions may be made when the future non-residential use of the adjacent lands is assured through such means as official plan designation and zoning, restrictive covenants is favour of the authority operating the plant or ownership by a co-operating public authority.

3.3 Alternatives to Buffer Area Acquisition

In the case where an adequate buffer area has not been purchased, the objective is to provide an optimum level of protection between sewage treatment facilities and residential structures. Reference may be made to the Land Use Plan Review Handbook, Chapter III-6 for guidelines on the measurement of separation distances.

When a buffer area cannot be provided for a sewage treatment plant, consideration should be given to covering sections of the plant and treating collected gases. A combination of distance, covering and treatment may, in some cases, be required.

3.4 Sewage Treatment Plants

3.4.1 Capacity Equal to or Less Than 25,000 m^3/d

The recommended separation distance is 150 metres. The minimum separation distance is 100 metres.

3.4.2 Capacity Greater Than 25,000 m^3/d

These plants will be dealt with on an individual basis and separation distance of greater than 150 metres may be required.

3.5 Waste Stabilization Ponds

The desirable separation distance varies from 100 to 400 metres depending on the type of pond and characteristics of the waste.

4. Comments on Residential Applications

In most cases, the Ministry of the Environment will concur with residential developments near sewage treatment facilities that have no history of objectionable odours, if the above guidelines are being met. If a facility does have a history of objectionable odours, a larger buffer zone may be required, at least until further abatement work has remedied the problem. Should any of the above conditions not be satisfied, the Ministry may advise against the proposed development.

Warnings may be applied to land titles or other legal documents relating to residential uses, which warn prospective buyers about the occasional nuisance effects of a nearby sewage treatment facility (see the Land Use Plan Review Handbook Chapter II-4, Warnings Concerning Environmental Matters).

Ministry of the Environment
Ontario

M.O.E. Policy Manual

POLICY TITLE	MINISTRY OF THE ENVIRONMENT CONSIDERATIONS FOR PROPOSED HYDROCARBON PIPELINE FACILITIES IN ONTARIO	NO 07-06-01

Legislative Authority

the Environmental Protection Act
the Ontario Water Resources Act
the Environmental Assessment Act

Statement of Principles

This policy identifies the interest of the Ministry of the Environment in new or expanding hydrocarbon pipeline facilities proposed in Ontario. The policy defines the specific environmental considerations that the Ministry advises be taken into account by the Ontario Energy Board and National Energy Board in giving approvals to pipeline transmission and distribution systems under their jurisdiction. The policy is also intended to guide Ministry of the Environment staff in commenting on pipeline proposals.

The policy sets the context for all existing and new policies and guidelines related to hydrocarbon pipelines. The intent is to achieve a reasonable degree of protection for the environment by ensuring that the necessary safeguards are incorporated early in planning and then implemented during construction and operation of these facilities.

1. Policy Statement

It is the policy of the Ministry of the Environment to recommend that certain environmental considerations be adequately accounted for in the planning, siting, design, construction, operation and maintenance of new, expanding or upgraded hydrocarbon pipeline facilities in Ontario.

Point of Contact

Director, Approvals Branch

Effective Date

September 7, 1983

2. Objective of Policy

The objective of the policy is to minimize any potentially significant, adverse environmental effects from the construction and operation of proposed pipeline facilities. Appropriate environmental considerations should be taken into account at an early stage in their planning and then implemented.

3. Application

The policy applies in all cases where a new, expanding or upgraded hydrocarbon pipeline facility is proposed in Ontario. The policy can apply to all aspects of new or expanding pipeline transmission and distribution systems, including their planning, design, construction, operation, maintenance and removal.

This includes applying the policy to pipeline proposals and applications reviewed by the Ministry of the Environment, where the Ministry's advice is requested: primarily by the Ontario Energy Board; and/or from time-to-time by the National Energy Board; and/or where appropriate, by the pipeline companies or others.

4. Considerations Within Direct Interest of MOE

The following considerations derived from the Environmental Protection Act, the Ontario Water Resources Act and the Environmental Assessment Act are directly within the Ministry's interest and are appropriate for MOE comments and approval recommendations:

Water Quality/Quantity

(a) surface and groundwater quality and quantity, including water in lakes, rivers, streams, wetlands and in the sub-surface, in accordance with MOE's Water Management Goals, Policies, Objectives and Implementation Procedures and the MOE Guidelines for Construction of Hydrocarbon Transmission and Distribution Pipelines Crossing Watercourses;

Erosion and Sedimentation	(b)	erosion and sedimentation controls and other practices for managing surface run off, to prevent entry of contaminants into water bodies, including proper siting and disposal of excess fill and excavated material;
Sewage and Water Systems	(c)	sewage treatment and water supply systems, including individual sewage system interference and approvals, individual water well interference and approvals, and water taking permits;
Waste Management	(d)	waste management, including approvals for waste disposal sites;
Soil Contamination	(e)	soil contamination, including proper containment, clean-up and disposal of contaminants;
Air Quality	(f)	air quality, air pollution, and air management, including the control of odour, dust and other contaminants during construction, operation and contingency activities;
Noise and Vibration	(g)	noise and vibration during construction and operation of facilities;
Land Use	(h)	incompatible or conflicting land uses such as pipeline proposals affecting or being affected by sensitive or potentially damaging nearby land uses;
Environmental Assessment Act	(i)	undertakings subject to the Environmental Assessment Act, which affect or are affected by pipeline proposals, or hydrocarbon pipelines that are specifically designated under the Environmental Assessment Act;

Environmental Approvals

(j) compliance with any conditions in an approval, license or permit issued under the Environmental Protection Act, the Ontario Water Resources Act or the Environmental Assessment Act; and

Other Considerations

(k) any other matters, including socio-economic concerns and public participation, that specifically relate to the above areas, directly within MOE's mandate.

5. Policy Implementation

5.1 Authorization

This Policy will be implemented by the Director of Approvals Branch or by Regional Directors of the Ministry of the Environment.

5.2 MOE Staff Involvement

MOE staff activities usually will be co-ordinated through the Ministry representative on the Ontario Pipeline Co-ordination Committee of the Ontario Energy Board. MOE staff involvement includes:

Project Review

(a) review of proposed environmental study reports and, where necessary, reviews of proposed contract drawings and specifications, work schedules and the contractor's proposed method of construction;

Monitoring

(b) periodic inspection and surveillance of on-going pipeline construction, to ensure necessary compliance;

Public Hearings

(c) Intervention and/or participation, as appropriate, at any Hearings before the Ontario Energy Board or National Energy Board on pipeline applications or related matters of concern to the Ministry; and

Other Activities

(d) Any other activities, including litigation, that may be necessary to ensure compliance with the intent of any approval conditions or the Ministry's environmental objectives.

5.3 Application of Other MOE Policies

Any related MOE policies, guidelines and studies may be used to guide the Ontario Energy Board, National Energy Board and the pipeline industry throughout the process of approving and implementing pipeline facilities in Ontario. In their absence, staff will use best professional judgement and available information.

5.4 Ontario and National Energy Board Approvals

The Ontario Energy Board may be requested to impose conditions, where appropriate, in the Board Order, in the event of an approval of a pipeline application, to ensure that Ministry of the Environment's concerns are met. In those cases where approvals are sought from the National Energy Board and where the proposal is not directly within Provincial jurisdiction, the National Energy Board may be asked to impose conditions in the Board Order, where appropriate, in the event of an approval of a pipeline application, to ensure that Ministry concerns are met.

POLICY TITLE	NO
LAND USE ON OR NEAR LANDFILLS AND DUMPS	07-07-01

Legislative Authority

the Environmental Protection Act, Part V
Ontario Regulation 309
the Planning Act, Sections 2(e), 2(h)

Statement of Principles

This policy provides guidelines for MOE staff reviewing proposals for land use on or near operating and non-operating landfills and dumps, as defined in Regulation 309, regardless of ownership. This policy is written to complement the Ministry's abatement programs.

DEFINITIONS

Land Use	Any existing or proposed activity, structure, service, facility, or natural feature, either at, above, or below grade, which conforms to an approved municipal plan.
Land Used for Waste Disposal Purposes	The land comprising the fill area where landfilling or dumping has occurred, and the land identified in a certificate of approval which is being used for the leachate buffer area and/or the gas buffer area.

November 1987

Point of Contact

Approvals Branch

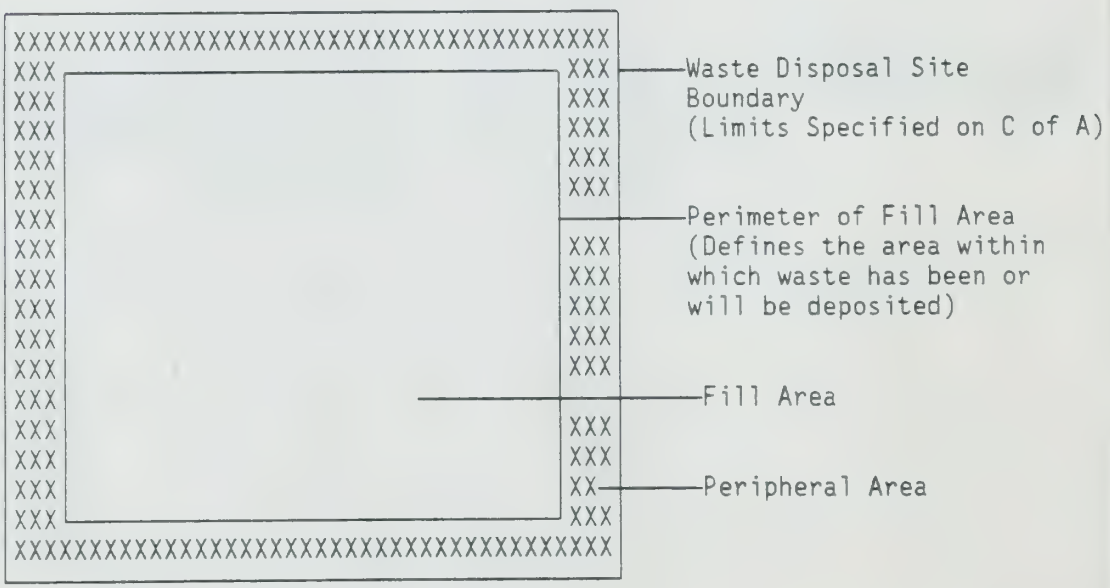
Effective Date

November 18, 1987

Sensitive Land Use	A land use where man or the natural environment may experience an adverse environmental effect from an incompatible land use.
Fill Area	The area of a waste disposal site set aside for landfilling or dumping.
Peripheral Area	The area controlled by the applicant between the boundary of the waste disposal site and the fill area. Together the peripheral area and the fill area make up the waste disposal site. The peripheral area will contain the buffer areas required to be on site.

CONCEPTUAL DIAGRAM NO. 1

(Plan View)



LANDFILL OR DUMP

1. Policy Objective

The objective of this policy is to protect the health, safety, convenience, and welfare of residents from potential adverse environmental effects of landfills and dumps, by restricting or controlling land use.

2. Application

2.1 General

This policy applies to all proposals for land use on or near operating and non-operating landfills and dumps, which contain or contained municipal domestic waste, industrial solid waste and/or sewage sludges. This policy does not apply to lands certified as organic soil conditioning sites under Regulation 309.

2.2 Liquid Industrial and Hazardous Waste

For landfills and dumps that have accepted liquid industrial, toxic, or hazardous waste, investigations will be required, and additional measures beyond those discussed in this policy may be necessary.

2.3 MOE Involvement

This policy will be used by MOE staff when reviewing land use proposals, including official plans and amendments, subdivisions, condominiums, severances, and zoning by-laws:

(a) at the request of the responsible Ministry or the delegated approving authority, under the Planning Act or the Condominium Act;

(b) for land use requests subject to Section 45 of the Environmental Protection Act; and

(c) for undertakings subject to the Environmental Assessment Act.

3. Overall Responsibility

In the context of this policy, it is the responsibility of the Ministries of Environment and Municipal Affairs to oversee and advise upon land use proposals, within their respective mandates, to ensure that the factors set out in Section 4 have been considered, and that involvements and commitments in Sections 5 and 6 are carried out when necessary.

3.1 Landfill or Dump

Staff will ensure that the operator and/or owner of an operating and non-operating site comply with MOE requirements for the control of adverse environmental effects of the landfill or dump.

3.2 Land Use

3.2.1 Near Land Used or to be Used for Waste Disposal Purposes

Staff will expect the developer and the municipality to fulfill their responsibility to protect public health and safety in areas of land use near a landfill or dump, and to prevent major problems with nuisance effects which may extend beyond the landfill or dump.

3.2.2 On Land Used for Waste Disposal Purposes

Where a land use proposal is submitted for approval under Section 45 of the Environmental Protection Act, staff must be assured by the developer and the municipality that the proposal contains adequate measures for the protection of public health and safety, to facilitate a recommendation to the Minister.

Where an approval under EPA Section 45 is not required from the Minister of the Environment, Section 3.2.1 of this policy applies.

4. MOE Environmental Considerations

4.1 Operating Sites

Factors to be considered when land use is proposed near an operating site include landfill generated gases, ground and surface water contamination by leachate, odour, litter, traffic, visual impact, dust, noise, other air emissions, fires, surface run-off, vectors and vermin. Particular attention shall be given to the production and migration of methane gas.

4.2 Non-Operating Sites

Factors to be considered when land use is proposed on or near a non-operating site include leachate, surface run-off, ground settlement, visual impact, soil contamination/hazardous waste and landfill generated gases. Particular attention should be given to the production and migration of methane gas.

4.3 Assessment

The adverse environmental effects of the factors in 4.1 and 4.2 may create:

(a) a hazard or health/safety risk;

(b) a nuisance to man; and/or

(c) degradation of the natural environment.

The overall extent, number, degree, and frequency of adverse environmental effects can vary with each site. Consideration must be given to the nature of proposed land use(s).

Reference should be made to the Ministry's guideline entitled "Assessing Methane Hazards From Landfill Sites" if particular site conditions warrant obtaining further information.

5. Land Use Considerations

5.1 General

5.1.1 Sensitive Land Use

MOE will normally recommend against proposals for sensitive land use adjacent to operating landfills and dumps, and land used for waste disposal purposes where there are completed or partially completed fill areas.

Where land uses are proposed for approval under Section 45 of the Environmental Protection Act, the Ministry normally will not permit residential and other sensitive land use.

5.1.2 Major Environmental Impacts

MOE will recommend against land use where no feasible remedial measures have been incorporated to prevent adverse environmental effects from having a significant impact on the proposed land use.

5.1.3 Sequential Development

In considering long range planning, MOE may recommend that certain types of land use be phased to coincide with closure of sections of a landfill or dump, or the operation itself, as nuisance effects are reduced or eliminated. This approach will only apply where no risks to health or safety are present.

5.2 Land Use Within 30 m of a Fill Area

5.2.1 Operating Sites

No land use may take place within 30 metres of the perimeter of a fill area. This is a minimum distance.

5.2.2 Non-Operating Sites

Where technical controls for leachate, or leachate and gas are required surrounding a fill area, no land use may take place within 30 metres of its perimeter. This distance may be reduced to 20 metres where only gas controls are necessary.

5.3 Land Use Within 500 m of a Fill Area

MOE considers the most significant adverse environmental effects to be normally within 500 metres of the perimeter of a fill area. Staff will ensure that the developer has evaluated the presence and impact of any adverse environmental effects or risks to health and safety and that necessary remedial measures are taken when land use proposals are within this distance. This assessment should be based on the nature and knowledge of the disposal site, and the nature of land use(s) proposed. The actual influence areas (migration ranges) for the considerations listed in Sections 4.1 and 4.2 of this policy will vary with the individual landfill or dump.

5.4 Land Use Beyond 500 m of a Fill Area

In exceptional hydrogeologic situations such as areas of fractured rock or sand, MOE staff will recommend that hydrogeologic and/or engineering studies be carried out for land use proposals beyond 500 metres of a fill area, where it is anticipated that leachate or gas could migrate beyond 500 metres and pose a problem.

5.5 Hydrogeologic/ Engineering Studies

5.5.1 Responsibility

Where the hydrogeologic and geologic setting of the developer's property and the inter-relationship with gas and/or leachate from the fill area are unknown, staff will ensure that the developer engages a qualified hydrogeologist and/or engineer to determine the subsurface conditions and, where necessary, propose remedial measures.

5.5.2 Exceptions

A formal site investigation normally will not be required where MOE is satisfied that the evaluation of existing data indicates the absence of a problem.

6. Controls and Monitoring for Adverse Environmental Effects

6.1 Implementation Responsibility

6.1.1 Developer

Staff will ensure that, where necessary, control measures are proposed by the developer and/or his consultant. These measures include design details and specifications of any device or facility.

6.1.2 Municipality

Staff will confirm with the local municipal authority that the local municipal authority is responsible for ensuring that proper control measures are implemented and monitored, and that periodic inspections of both operating and non-operating landfills and dumps for contaminant migration and potential hazards are undertaken.

6.1.3 MOE

Where appropriate, MOE staff will recommend, as a condition of development approval, that controls be included to deal with adverse environmental effects or risks to health or safety and that monitoring of contaminant migrations and inspections of control facilities be carried out.

6.2 Monitoring on Private Property

Where monitoring and inspections will be required on private property, staff will recommend that a contract be executed between the developer and the municipality, in the form of, or part of, an agreement that may be registered on title and run with the land.

6.3 Buffering Techniques

One or a combination of buffers as defined in MOE Policy 07-03 "Land Use Compatibility" may be employed in a given situation.

Ministry of the Environment
Ontario

M.O.E. Policy Manual

POLICY TITLE	LEVELS OF TREATMENT FOR MUNICIPAL AND PRIVATE SEWAGE TREATMENT WORKS DISCHARGING TO SURFACE WATERS	NO 08-01-01

Legislative Authority

Ontario Water Resources Act
(Sec. 24 - R.S.O. 1980)

Statement of Principles

This policy describes the levels of treatment that the Ministry will require at municipal and private sewage treatment works discharging to surface waters. The measures described in this policy are in accord with Policy 15-01 of the Manual of Environmental Policies and Guidelines which references the Ministry publication WATER MANAGEMENT - Goals, Policies, Objectives and Implementation Procedures of the Ministry of the Environment (Revised May 1984).

This policy applies to sewage works operated by municipalities or others, the main function of which is to treat human waste.

All Guidelines referred to in this policy are available from Water Resources Branch.

1. Ministry Requirements of Municipal & Private Sewage Works

The Ministry requires that municipal and private sewage treatment works, outfall structures and emergency overflow facilities be located, designed, constructed and operated so as to minimize pollution of receiving waters and interference with water uses.

April 5, 1983

Point of Contact

Supervisor, Municipal-Industrial Strategy for Abatement - Municipal Section, Water Resources Branch

Effective Date

January 18, 1983

2. Normal Level of Treatment

The normal level of treatment required for municipal and private sewage treatment works discharging to surface waters is secondary treatment, or equivalent. Hereinafter, normal level of treatment shall mean secondary treatment or equivalent.

2.1 Relaxation of Normal Treatment

A relaxation of normal level of treatment will only be allowed on a case-by-case basis, and in accordance with the Ministry guidelines listed below:

(a) Guidelines for the Determination of Treatment Requirements for Municipal and Private Sewage Treatment Works Discharging to Surface Waters

(b) Procedural Guidelines for Relaxation of the Normal Level of Treatment for Municipal and Private Sewage Treatment Works Discharging to Surface Waters.

Under no circumstances will the level of treatment required be less than primary treatment.

2.2 Higher Than Normal Treatment

Higher levels of treatment than secondary, up to and including 'no discharge to surface waters' may be imposed in accordance with Ministry Guidelines listed below:

(a) Guidelines for the Determination of Treatment Requirements for Municipal and Private Sewage Treatment Works Discharging to Surface Waters.

Higher than normal level of treatment shall be justified by appropriate site-specific receiving water assessments.

3. Review of Treatment Levels

The level of treatment required for individual sewage treatment works shall be subject to periodic review by Regional Offices as necessary especially when expansions of sewage treatment works are contemplated.

More stringent treatment requirements may be imposed as found necessary by site specific receiving water assessment.

April 5, 1983

4. Effluent Requirements

For new or expanded sewage treatment works discharges, the level of treatment will be derived by applying the measures in 2.0, 2.1 and 2.2 above. Effluent requirements, including both waste loadings and concentrations will be incorporated into Certificates of Approval.

For existing sewage treatment works, the level of treatment required will be subject to review and update. Effluent requirements shall be assigned to individual existing works.

These effluent requirements shall be derived in accordance with the Guidelines listed below:

(a) Procedural Guidelines for the Derivation of Sewage Treatment Works Effluent Requirements and for the Incorporation of Effluent Requirements into Certificates of Approval for New or Expanded Sewage Treatment Works.

5. Effluent Requirements Compliance Assessment and Enforcement

A comprehensive monitoring program, including regular sampling of sewage works effluents and recording of flows, will be undertaken by the works operating authority. This will permit assessment of compliance with effluent requirements and, if necessary, initiation of appropriate remedial measures for works out of compliance.

The compliance assessment and enforcement actions will be carried out in accordance with Policy 08-06 and the Guidelines listed below:

Procedural Guidelines for the Derivation of Sewage Treatment Works Effluent Requirements and for the Incorporation of Effluent Requirements into Certificates of Approval for New or Expanded Sewage Treatment Works.

6. Phosphorus Removal Requirements

Phosphorus removal is required for certain sewage treatment works discharging to a number of water bodies in the Province. Please refer to Ministry policy on Provision and Operation of Phosphorus Removal Facilities at Municipal and Private Sewage Treatment Works for details (currently being prepared for the Manual).

7. Effluent Disinfection Requirement

Effluent disinfection requirements are contained in Ministry policy on Effluent Disinfection Requirements (currently being prepared for the Manual).

8. By-Passing and Combined Sewer Overflows

Minimizing of by-passing of sewage and combined sewer overflows is required in accordance with policy now being developed by MOE and the following guidelines:

Guidelines for the Determination of Treatment Requirements for Municipal and Private Sewage Treatment Works Discharging to Surface Waters.

9. Sewage Treatment Works Expansion

The Ministry's conditions for sewage treatment works expansion are contained in Ministry policy being developed on Sewage Treatment Works Expansion.

10. Sampling and Analysis Requirements

The Ministry's sampling and analysis requirements for municipal and private sewage treatment works are contained in Policy 08-06.

11. Deviation from Policies and Guidelines

Any deviation or relaxation from the policies listed in Sections 1.0 - 10.0 above and their related Guidelines must receive the concurrence of the Director, Water Resources Branch.

April 5, 1983

POLICY TITLE	NO
STATEMENT OF POLICY TO GOVERN THE SEPARATION SEWERS AND WATERMAINS	08-02-01

Legislative Authority

The Ontario Water Resources Act, R.S.O. 1980

Statement of Principles

1. In accordance with the MOE Guidelines for the Design of Water Distribution Systems Appendix "C":

   Sewers/sewage works* and watermains located parallel to each other should be constructed in separate trenches maintaining a minimum clear horizontal separation distance of 2.5 m.

   In cases where it is not practical to maintain separate trenches or the recommended horizontal separation cannot be achieved, the Ministry of the Environment or its designated "agent" may allow deviation from the above.

2.1 Rationale

This is considered a good engineering and construction practice and will reduce the potential for health hazard in the event of the occurrence of conditions conducive to possible contaminated ground water flow into the water distributions system.

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* Sewers/sewage works includes sanitary sewers, sanitary forcemains, storm sewers, and storm forcemains, and all appurtenances/fittings thereto.

August 22, 1986

Point of Contact

Director
Approvals Branch

Effective Date

September 29, 1982

2.2 Hazards Due to Contamination

Contaminated ground and surface water may enter the water distribution system at leaks or breaks in piping, vacuum air relief valves, blowoffs, fire hydrants, meter sets, outlets, etc. with the occurrence of a negative internal or positive external pressure condition. Water pressure in a part of the system may be reduced to a potentially hazardous level due to shutdowns in the system, main breaks, heavy fire demand, high water usage, pumping, storage, or transmission deficiency.

2.3 Prevention Of Health Hazards

It is recognized by the Ministry of the Environment that health hazards may develop through relative locations of watermains and sewers. Adequate protection must be provided to prevent the occurrence of waterborne disease and chemical poisoning due to contaminated ground water and surface runoff entering the water distribution system.

3. Exceptions

Under unusual conditions, deviations from the "separate trench" requirement may be allowed but only in accordance with the Ministry of the Environment Guidelines for location of Sewers and Watermains set out in Appendix "C" of "Guidelines for the Design of Water Distribution Systems" dated May 1979, as amended.

Ministry of the Environment
Ontario

M.O.E. Policy Manual

POLICY TITLE	MINIMUM ACCEPTED LEVEL OF SERVICING FOR MUNICIPALLY AND PRIVATELY OWNED COMMUNAL SYSTEMS	NO 08-03-01

Legislative Authority

the Ontario Water Resources Act,
Sections 23 and 24, R.S.O. 1980

Statement of Principles

This policy describes the minimum recommended level of servicing for municipally and privately owned communal water and sewage systems in the Province of Ontario. The works shall include the provision of:

(a) an acceptable quality of water;
(b) an acceptable quantity of water;
(c) an acceptable method of water distribution;
(d) an acceptable method of sewage collection;
(e) an acceptable method of sewage treatment and disposal;

in order to protect human health and maintain the quality of the Environment.

1. Objective

The purpose of this policy is to state existing MOE requirements and to provide guidance to consulting engineers, municipalities, the private sector and Ministry staff with respect to designing and reviewing proposals for communal water and sewage facilities.

Point of Contact

Director,
Project Engineering Branch

Effective Date

July 1, 1986

2. Applicable Guidelines

The proposals for communal servicing are assessed against the following guidelines:

(a) Guidelines for the Design of:

- Sanitary Sewage Systems (July 1984)
- Storm Sewer Systems (Interim) (July 1984)
- Water Distribution Systems (July 1984)
- Water Storage Facilities (July 1984)
- Servicing in Areas Subject to Adverse Conditions (January 1985)
- Small Residential Developments (March 1985)
- Seasonally Operated Water Supply Systems (February 1985)
- Appendices "A" through "T".

(b) Guidelines for the Design of:

- Sewage Treatment Plants (July 1984)
- Water Treatment Plants (April 1984)

(c) Levels of Treatment for Municipal and Private Sewage Treatment Works Discharging to Surface Waters (MOE Policy No. 08-01).

2.1 Guideline Amendments

2.1.1 Guidelines (a) and (b)

The Director, Environmental Approvals and Land Use Planning Branch is the required level of authorization for amendment to above guidelines (a) and (b).

2.1.2 Guideline (c)

The Director, the Water Resources Branch is the required level of authorization for amendment to guideline (c).

2.2 Guidelines Availability

2.2.1 Guidelines (a) and (b)

Guidelines (a) and (b) referenced in this Policy can be reviewed at any office of the Ministry of the Environment or can be purchased from

Ontario Government Bookstore
880 Bay Street, Toronto

or by Mail Order from

MGS Publications Services Section
5th Floor
880 Bay Street
Toronto, Ontario
M7A 1N8

(Cheque or Money Order payable to the TREASURER OF ONTARIO must accompany mail orders)

Guideline (a) - $7.50
Guideline (b) - $15.00

2.2.2 Guideline (c)

Guideline (c) can be obtained from the Water Resources Branch at no cost.

3. Application

It should be noted that design guidelines (a), (b) and (c) are somewhat flexible to reflect geological, climatological and other environmental concerns which are unique to different areas of the province.

4. Exceptions

Provision for servicing of communities which have an identified health hazard or other environmental problem shall be reviewed on a case-by-case basis.

5. Deviation From Policy and Guidelines

Any deviation or relaxation from the requirements of this Policy and related guidelines must receive the concurrence of the Director, Environmental Approvals and Land Use Planning Branch and the appropriate Regional Director.

Ministry of the Environment
Ontario

M.O.E. Policy Manual

POLICY TITLE	POLICY TO GOVERN THE PROVISION AND OPERATION OF PHOSPHORUS REMOVAL FACILITIES AT MUNICIPAL, INSTITUTIONAL AND PRIVATE SEWAGE TREATMENT WORKS	NO 08-04-01

Legislative Authority

Ontario Water Resources Act
(Sections 17 and 24 - R.S.O. 1980)

Statement of Principles

This policy describes the requirements for the provision and operation of phosphorus removal facilities.

Except where exempted by the Policy, the provisions are to apply to all municipal, institutional and private sewage treatment works discharging to surface waters and requiring MOE approval under Section 24 of the OWR Act, RSO 1980.

The guidelines referred to in this policy are available from the Water Resources Branch.

1. Reason for Phosphorus Removal

The Ministry requires that phosphorus removal facilities be installed and operated at certain sewage treatment works to minimize water quality and associated eutrophication problems caused by excessive phosphorus levels in receiving waters.

Point of Contact

Director,
Water Resources Branch

Effective Date

2. Basin Requirements

2.1 Lake Erie

All municipal and institutional sewage treatment works regardless of capacity, discharging into the Lake Erie Basin, require phosphorus removal to the 1.0 mg/L total phosphorus level in the effluent.

2.2 Lake Superior Lake Huron Lake Ontario - St. Lawrence River Basins

All municipal and institutional sewage treatment works having nominal design capacities of 4546 m y3/d (1.0 mIgd), or more, having effluent discharges to the Lake Ontario Basin, Lake Huron Basin, and the International Section of the St. Lawrence River Basin, require phosphorus removal to the 1.0 mg/L total phosphorus level in the effluent.

For discharges outside the International Section of the St. Lawrence River, the phosphorus removal requirement of 1.0 mg/L also applies to facilities 1.0 mIgd or larger.

2.3 Ottawa River Basin

All municipal and institutional sewage treatment works having nominal design capacities of 4546 m^3/d (1.0 mIgd), or more and having effluent discharges to designated portions of the Ottawa River Basin, (as defined in "Summary Report on the Phosphorus Removal Program, April 1976") require phosphorus removal to the 1.0 mg/L total phosphorus level in the effluent.

3. Recreational Waterways Requirements

All municipal and institutional sewage treatment works regardless of capacity, having effluent discharges to Recreational Waterways, such as but not restricted to, the Trent-Severn River System (including the Lake Simcoe Drainage Basin and the Bay of Quinte Drainage Basin), the Rideau River System, the Lake Nipissing Drainage Basin, and selected areas of the Lake Huron (Georgian Bay) Drainage Basin, require phosphorus removal to the level corresponding to that required by the major drainage basin as stated in Items 2.1 to 2.3, above.

4.	More Stringent Requirements	Phosphorus removal requirements more stringent, either in terms of effluent level or design capacity to which they apply, than those outlined in Items 2 to 3 above, may be imposed, but only when justified by appropriate site-specific receiving water assessments and basin-wide considerations.
5.	Phosphorus Removal Based Upon Water Assessment Studies	Phosphorus removal requirements for municipal and institutional sewage treatment works discharging to watercourses not included in the above Items 2 to 3 and for private communal sewage treatment works will be determined through receiving water assessments, as the need arises.
6.	Compliance Assessment	Sampling and analysis requirements to assess effluent compliance will be in accordance with the requirements set out in MOE Policy 08-06, "Policy to Govern Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works".
7.	Guidelines	For assistance in implementing this policy, reference should be made to Appendix A, Guidelines for the Determination of Phosphorus Removal Requirements for Municipal, Institutional and Private Sewage Treatment Works.
8.	Deviation from Policy and Guidelines	Any deviation or relaxation from the policies listed in sections 1.0 - 7.0 above and the related Guidelines must receive the concurrence of the Director, Water Resources Branch.

POLICY NO. 08-04

APPENDIX A

GUIDELINES FOR THE DETERMINATION OF PHOSPHORUS REMOVAL REQUIREMENTS FOR MUNICIPAL, INSTITUTIONAL AND PRIVATE SEWAGE TREATMENT WORKS

1.0 INTRODUCTION

The phosphorus removal program was adopted by the Ontario Water Resources Commission by resolution passed on July 9, 1970. The first phosphorus removal facilities were to be operational by December 31, 1973, while the remainder were to be operational by December 31, 1975. Background information on the phosphorus removal program is included in the document entitled "Summary Report on the Phosphorus Removal Program", April 1976. The signing in October 1983 of the "Supplementary Agreement" to the 1978 Canada-United States Agreement on Great Lakes Water Quality Agreement modified the phosphorus removal mandate to include phosphorus removal at all municipal and institutional facilities with a nominal design capacity of 4546 m^3/d (1.0 mIgd) or greater in the Upper Lakes Basin. Copies of the Supplementary Agreement or the Summary Report can be obtained from the Water Resources Branch.

2.0 TERMINOLOGY

2.1 Total phosphorus removal and effluent level requirements referred to in this policy shall be evaluated (for compliance purposes) in accordance with the provisions under MOE Policies 08-01 "Levels of Treatment For Municipal And Private Sewage Treatment Works Discharging To Surface Waters" and 08-06 "Policy to Govern Sampling And Analysis Requirements For Municipal And Private Sewage Treatment Works (Liquid Waste Streams Only)" and their Guidelines.

2.2 Effluent total phosphorus level requirements are expressed in terms of mg/L as Phosphorus unless otherwise stated.

2.3 A sewage treatment works "nominal design capacity" refers to the treatment capacity in terms of average daily flow rate.

2.4 Lake Superior Basin includes all tributary streams draining into Lake Superior.

2.5 Lake Huron Basin includes all tributary streams draining into Lake Huron including the St. Mary's River.

2.6 Lake Erie Basin includes all tributary streams draining to Lake Erie, including the St. Clair - Lake St. Clair-Detroit River system.

2.7 Lake Ontario Basin includes all tributary streams draining to Lake Ontario, including the Niagara River and the Welland Canal. Also included in the Lake Ontario Basin is the International Section of the St. Lawrence River.

3.0 MUNICIPAL PHOSPHORUS REMOVAL REQUIREMENTS

For up-dated information on the municipalities requiring phosphorus removal and effluent requirements, refer to the list entitled, "Province of Ontario Phosphorus Removal Requirements" (June, 1984). Water Resources Branch will update this list periodically and should be contacted if questions pertaining to the above arise.

4.0 EXEMPTION FROM EQUIPMENT INSTALLATION REQUIREMENTS

Sewage treatment works which are capable of satisfying the applicable total phosphorus removal or effluent level requirements without supplementary chemical addition will not be required to install phosphorus removal facilities. Dilution is not acceptable as a means of achieving the required effluent levels.

5.0 DESIGN GUIDELINES

For information on the design of phosphorus removal. facilities, reference should be made to the Ministry's Guidelines for the Design of Sewage Treatment Works, prepared by the Environmental Approvals and Project Engineering Branch, Special Engineering Design and Equipment Section.

Ministry of the Environment
Ontario

M.O.E. Policy Manual

POLICY TITLE	THE USE OF HOLDING TANKS IN SEWAGE SYSTEMS UNDER PART VII OF THE ENVIRONMENTAL PROTECTION ACT	NO 08-05-01

Legislative Authority

the Environmental Protection Act (EPA), Regulation 374/81

Statement of Principles

The purpose of this policy is to protect human health and the environment by restricting the use of holding tanks in sewage systems. Systems which use holding tanks are expensive to operate and do not constitute a sufficiently reliable system for dealing with raw sewage on an ongoing basis.

In certain circumstances, holding tanks may be allowed provided that the Municipality concerned is willing to accept the onus of taking ultimate responsibility for the disposal of contents of those holding tanks.

Definitions

Class 4 sewage system	A septic tank system.
Class 5 sewage system	A sewage system which requires or uses a holding tank for the storage or retention of hauled sewage at the site where it is produced prior to its collection by a Class 7 sewage system.

Point of Contact

Director,
Approvals Branch

Effective Date

May 2, 1988

Class 6 sewage system	A sewage system in which sewage is treated in a proprietary aerobic sewage treatment plant.
Class 7 sewage system	A hauled sewage system.
Director	Persons appointed as Directors for Part VII, EPA, either from Ministry staff, or officials of Health Units.

1.0 Scope

This policy applies to proponents who require a Certificate of Approval and a Use Permit for sewage systems under Sections 64 and 67 of the EPA and to Directors appointed under Section 4 of the EPA.

2.0 Class 5 Sewage Systems Not Permitted

Directors will not approve applications for Class 5 sewage systems where the intended use is:

(a) for any new commercial, industrial, institutional, or residential installation;

(b) to permit the expansion of existing buildings or structures already served by a Class 5 sewage system; or

(c) to permit a change in the use of existing buildings or structures where the change results in the existing Class 4 or Class 6 sewage system being rendered inadequate; or

(d) for the development of undeveloped lots within a plan of subdivision registered before April 16, 1974, where the individual lots are of insufficient size to permit the installation of a Class 4 or Class 6 system.

3.0 Exceptions

Notwithstanding 2.0, Directors may permit the use of Class 5 sewage systems in the following circumstances:

(a) the proposed land use is for a temporary operation (excluding seasonal recreational use) not exceeding 12 months in duration; or

(b) as an interim measure for a parcel of land until municipal sewers are available, and where the municipality undertakes to ensure the continued operation of an approved Class 7 sewage system until municipal sewers are available; or

(c) where the lot is in a registered plan of subdivision but the lot is of insufficient size to permit the construction of a Class 4 or Class 6 sewage system and the municipality undertakes to ensure the continued operation of an approved Class 7 sewage system; or

(d) to permit the expansion of an existing single family residence which will continue as such and is already served by a Class 5 system.

3.1 Financial Assurance

Where exceptions are granted under 3.0 (a) and 3.0 (b), approval will be conditional on financial assurance being provided by proponents in accordance with the Ministry's Guidelines on the "Use of Financial Assurance".

Financial assurance, when imposed under the previous paragraph or otherwise, will be requested for the costs of such matters as pumpouts and decommissionings of systems employing holding tanks and providing connections to future sanitary sewers.

4.0 Class 5 Sewage Systems Permitted

The Director may approve applications for Class 5 sewage systems under the following conditions:

(a) to solve an existing pollution problem where the correction of the problem by the installation of a Class 4 or Class 6 sewage system is not possible because there is no suitable area for such a system on the lot; or

(b) to upgrade the standard of a sub-standard sewage disposal system on an existing lot, where upgrading through the use of a Class 4 or Class 6 sewage system is not possible due to lot size or dimension limitations, and where the existing use of the building or structure is to be continued.

NOTE:

Where both 2(a) and 4(a) apply unless the Director determines the waste which is not normal domestic type waste is of a nature that is suitable for treatment in a Part VII sewage system, the plumbing for such waste should be segregated and its storage and removal will be regulated under Part V of the Act.

3.1 should not be read as intending to restrict the imposition of conditions only to matters set out therein.

Ministry of the Environment
Ontario

M.O.E. Policy Manual

POLICY TITLE	POLICY TO GOVERN SAMPLING AND ANALYSIS REQUIREMENTS FOR MUNICIPAL AND PRIVATE SEWAGE TREATMENT WORKS (LIQUID WASTE STREAMS ONLY)	NO 08-06-01

Legislative Authority

the Ontario Water Resources Act

Statement of Principles

This policy describes the Ministry of the Environment sampling and analysis requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams) for the purpose of assessing the works' performance and compliance with effluent requirements prescribed under Ministry Policy No. 08-01, "Levels of Treatment for Municipal and Private Sewage Treatment Works Discharging to Surface Waters." This policy applies to sewage works operated by municipalities or others, the main function of which is to treat human waste.

Implementation of this Policy is in line with provisions in Section 32 of the Ontario Water Resources Act (R.S.O. 1980) and the Canada-Ontario Agreement Respecting Great Lakes Water Quality, Schedule B-1(a).

All Guidelines referred to in this Policy are available from Water Resources Branch.

1. Sampling Locations

The Ministry of the Environment requires that samples, from the liquid waste streams of municipal and private sewage treatment works, be taken and analysed regularly, to permit evaluation of treatment works' performance and compliance with effluent requirements.

April 5, 1983

Point of Contact

Supervisor, Municipal-Industrial Strategy for Abatement - Municipal Section, Water Resources Branch

Effective Date

March 24, 1983

Samples must be taken of raw sewage, final effluent and, if applicable, effluent from intermediate treatment processes (e.g., primary effluent, or, if tertiary treatment is provided, secondary effluent).

Where the treatment works are divided into separate process flow trains, the above samples must be taken from each plant section. If the raw sewage treated by each plant section is identical in quaity, however, only one raw sewage sample represents the combined effluent produced by the plant sections, only one effluent sample will be necessary.

2. Routine Sampling and Analysis Program

Samples must be taken and analyzed routinely at least once per monthy during discharge periods. Lagoons operating on a fill-and-draw basis must be sampled after treatment prior to discharge for checking compliance against critcal parameter criteria, for all required effluent criteria on the final day of discharge and at least once more during the discharge period.

Samples must be analysed for at least BOD_5, suspended solids, ammonia plus ammonium nitrogen (for effluent streams only) and total phosphorus.

3. Special Sampling and Analysis Program

Special sampling and anlysis requirements, possibly including additional analytical parameters, increased frequency of sample collection and anlysis, in-plant analysis requirements and more stringent compositing procedures, etc., may be prescribed by the Ministry's Regions in consultation with other relevant Ministry Branches, on a case-by-case basis, for sewage treatment works discharging to sensitive receiving waters. Sampling and analysis requirements, less stringent than those required under the Routine Sampling and Analysis Program, may also be considered in special cases, such as for small sewage treatment works discharging to non-critical receivers.

Special Sampling Programs are to be developed in accordance with the Guidelines listed below:

(a) Guidelines for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only).

4. Sampling and Analysis for Operations' Control

Sampling and analysis requirements necessary for monitoring the proper control of day-to-day operation of sewage treatment works will normally exceed the above policy requirements. Sampling and analysis requirements for proper operational control purposes will be the responsibility of the operating authority.

5. Analyst's Qualifications

Analytical work must be carried out by properly trained personnel using standard techniques and equipment.

6. Sampling and Analysis Procedures

All sampling and analysis operations, including sample collection, preservation and submission, laboratory requirements and analysis results reporting shall be performed in accordance with Guidelines which are listed below:

(a) Guidelines for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only).

7. Sampling and Analysis Responsibility

Overall responsibility for carrying out sampling and analysis under this Policy, rests with the Works' operating authority.

Although Ministry Laboratories will currently undertake the analytical work for routine sampling programs and may currently do so for special sampling programs, this service could be discontinued in the future.

8.	Deviation from Policies Guidelines	Any deviations from the policy stipulations listed in Section 1.0 - 7.0 above and their related Guidelines must receive the concurrence of the Director, Water Resources Branch.

SUPPORTING GUIDELINES FOR MOE POLICY NO. 08-06

"POLICY TO GOVERN SAMPLING AND ANALYSIS REQUIREMENTS FOR MUNICIPAL AND PRIVATE SEWAGE TREATMENT WORKS (LIQUID WASTE STREAMS ONLY"

"Guidelines for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only)".

POLICY NO. 08-06

GUIDELINES FOR SAMPLING AND ANALYSIS REQUIREMENTS FOR MUNICIPAL AND PRIVATE SEWAGE TREATMENT WORKS (Liquid Waste Streams Only)

1.0 GENERAL

The primary purpose of the sampling and analysis program covered by Policy 08-06 is to evaluate sewage treatment work's performance and compliance with effluent requirements. The policy and these guidelines are meant to apply to all municipal and private (non-industrial) sewage treatment works in the Province of Ontario, except for those exempted from the requirements of Section 24 of the OWR Act (R.S.O. 1980).

While it is realized that the more frequently samples are taken and analysed, the more reliable the performance evaluation will be, it is also recognized that more extensive sampling and analysis will result in greater expense. Ideally, all sewage treatment works could be sampled 24 hours per day every day, but such a program would be unaffordable at all except the largest plants in the Province.

If sample data are to be used for prosecution purposes, the reliability of the data must be high. On the other hand, if the data are only to be used for screening purposes (e.g., to decide when and if more intensive sampling should be carried out) the data reliability need not be as great, and in such instances, the frequency of the sampling and analysis program can be reduced.

The sampling and analysis requirements outlined in this policy are considered to be suitable for screening purposes only.* Prior to any legal action being taken as a result of a sewage treatment work's effluent appearing to be in non-compliance with the conditions in a Certificate of Approval, an intensive sampling and analysis program may have to be undertaken to confirm the non-compliance. The requirements of such an intensive sampling and analysis program and any subsequent prosecution mode sampling program would have to be developed on a case-by-case basis and in accordance with Ministry Policy No. 08-01 and its "Procedural Guidelines For The Derivation of Sewage Treatment Works Effluent Requirements and For the Incorporation of Effluent Requirements Into Certificates of Approval for New or Expanded Sewage Treatment Works".

The following sections of the guidelines deal in detail with the 'routine' sampling and analysis program and discuss special sampling and analysis programs only in general terms.

The 'routine' sampling and analysis program is the minimum requirement of this policy and applies in cases where only BOD_5, suspended solids and phosphorus parameters require monitoring. Although ammonia plus ammonium nitrogen (for effluent only) is included in the 'routine' sampling and analysis program, it is included primarily for the purpose of building a data base to define the performance of individual sewage treatment works. If a sewage treatment works is required to achieve nitrification, a special sampling and analysis program more stringent than the 'routine' program may be necessary to adequately monitor this effluent parameter.

* Except for severe and well defined cases of non-compliance where MOE staff may consider proceeding with legal action based on data from this screening sampling.

Special sampling and analysis programs may be necessary for sewage treatment works discharging to sensitive receiving waters. These special sampling and analysis programs may deviate from the 'routine' program requirements with respect to sampling and analysis frequency, compositing procedures, parameters to be analysed for, in-plant analysis requirements, etc. Special sampling program requirements will be developed on a case-by-case basis by the Ministry's Regions in conjunction with Water Resources Branch and other relevant Ministry Branches to ensure Province-wide consistency and proper allocation of the Ministry's laboratory resources.

The overall responsibility for monitoring a sewage treatment work's performance, including sampling and analysis programs, rests with the plant's operating authority. Although the following guidelines indicate that the Ministry Laboratories will currently undertake the analytical work for routine sampling programs and may for special sampling programs, this service could be discontinued in future.

2.0 'ROUTINE' SAMPLING AND ANALYTICAL PROGRAM

2.1 Sample Collection

(a) For all plants with design capacity in excess of $4.54 \times 10^3 m^3/d$, samples should be composited over a twenty-four hour period. For smaller plants, samples composited over the normal hours of manned operation of the plant or at least over an eight-hour period, will be acceptable.

(b) Composite samples shall ideally consist of flow-proportioned aliquots taken at least once per hour over the required sampling period. All aliquots should be thoroughly mixed.

(c) Grab samples will be acceptable for lagoon systems.

(d) To ensure that the best possible accuracy is obtainable from analytical results, all equipment coming in contact with the sample shall be clean.

2.2 Sample Preservation

(a) If an automatic sampler is used, it should be located in a shaded area, rather than in direct sunlight.

(b) The sample itself should be refrigerated at 4°C, if at all possible throughout the collection period, and during the time taken to transport the sample. If plant personnel deliver the samples, a styrofoam cooler can be used for this purpose. Small refreezable ice packs can be placed within the cooler. If, however, the samples must be shipped by courier or express service, it is recommended that a one-day delivery period should be requested.

2.3 Sample Size

(a) At last one litre of sample from each sampling location should be submitted for the minimum analysis requirements (BOD_5, SS, Ammonia plus Ammonium Nitrogen and total P). If the effluent sample has less than 1 mm of solid matter when settled, or is almost clear when shaken, provide an extra litre of sample.

2.4 Timing of Sample Collection and Submission for Analysis

(a) Each sewage treatment works should be assigned a sample submission week by the Regional Office of the Ministry to avoid overloading laboratory facilities. Inter-regional scheduling of sample submissions will be co-ordinated by Water Resources Branch. Allowances should be made to schedule sampling and delivery to coincide with the days on which the analyses are normally performed. For example, samples arriving after noon on Friday will be at least three days old before analyses are done.

(b) Samples should be submitted for analyses as soon as possible following collection. Since it is recommended that analyses be carried out within one day of sampling, sample delivery should ideally be made to the Laboratory within a one-day period.

2.5 Sample Analysis and Data Reporting

(a) The Ministry of the Environment Laboratories will accept for analysis samples associated with 'routine' sampling programs from all sewage treatment works.

(b) Operating authorities who use their own analytical equipment or submit samples to commercial laboratories, shall still submit samples to the Ministry of the Environment Laboratory for purposes of quality control auditing. Until the capability and accuracy

of the plant or other laboratory are known, samples shall be submitted as normally required to the Ministry of the Environment Laboratory. As the capability and accuracy of the plant or commercial laboratory become known, the frequency of sample submission to the Ministry Laboratory may be reduced or possibly eliminated entirely. The frequency of submissions for quality control auditing will be suggested by the Ministry's Regional Office. To allow comparison of analytical results, samples submitted for quality auditing purposes shall be duplicates of the samples analysed by the plant or commercial laboratory.

(c) To satisfy all, or a part of, the analytical requirements of Policy No. 08-06, operating authorities using their own facilities or commercial laboratories shall submit copies of the analytical results at least once per month to the Regional Office of the Ministry. The Regions will forward copies of these results to Water Resources Branch.

(d) Eventually, all analytical data determined by the Ministry of the Environment Laboratories from sewage treatment works sampling programs will be fed through the LIS computer system directly into the TUMMIS File. Data from other laboratory analyses will also be fed into the TUMMIS File by Water Resources Branch as they are received from the Ministry's Regions. When this file is fully operational, running annual averages of plant performance and plant status with respect to compliance will be automatically determined. Results will be forwarded from Water Resources Branch to the Regions for action.

3.0 SPECIAL SAMPLING AND ANALYSIS PROGRAMS

Where water assessment studies have indicated the need for limiting the concentrations of ammonia plus ammonium nitrogen, hydrogen sulphide, chlorine or other substances, effluent sampling for these parameters should be undertaken in addition to the monthly analysis for BOD_5, suspended solids and total phosphorus. Deviations from the routine program requirements with respect to sampling and analysis frequency, compositing procedures, in-plant analysis requirements etc., may also be necessary. In these cases, the special sampling and analysis programs will be developed on a case-by-case basis by Regional staff in consultation with other Ministry Branches. Ministry Regional staff should be contacted by the operating authorities so that clearance can be granted for the submission of samples from special programs to Ministry Laboratories. Water Resources Branch should be consulted by the Ministry's Regions to ensure Province-wide consistency and equitable allocation of the Ministry's Laboratory capacities.

4.0 LESS STRINGENT SAMPLING AND ANALYSIS PROGRAMS

Sampling and analysis programs less stringent than the routine program may be considered for special cases, such as small sewage treatment works discharging to non-critical receivers. Any proposed relaxation from the 'routine' sampling program must be justified (based on additional factors such as manpower limitations, economics, etc.) and agreed to by the Ministry's Regions in consultation with Water Resources and other relevant Ministry Branches.